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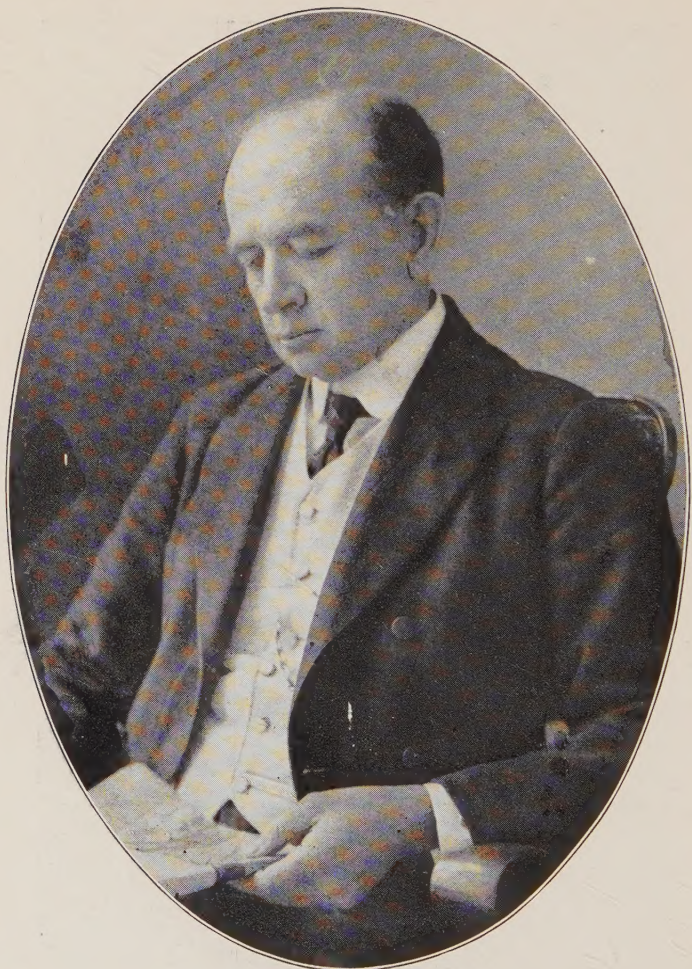
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"GRIZZLY GIANT—8,000 YEARS OLD



DR. MARION THRASHER

LONG LIFE IN CALIFORNIA

BY
MARION THRASHER M.D.

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Dr. Marion Thrasher

EXPLANATORY

This book has been written in odd moments snatched from a busy professional life, but every effort has been made to substantiate all data.

As centenarians usually have no contemporaries to verify their ages, we must rely upon their relatives, acquaintances, family Bibles or church records.

In every instance we have thus endeavored to authenticate the great ages of the California centenarians and thereby establish our contention that we have in the Golden State a longevity unparalleled in history. In 1913 we made a tour around the world, gathering data on longevity among the different civilized nations, and we found our deductions correct. We first visited the Hawaiian Islands, and here the humidity of the climate—the rainfall being the heaviest in the world, reaching sometimes 250 inches annually—develops tuberculosis, and we found no centenarians in the Islands.

In Japan we find an annual rainfall of 70 inches—and that with the poverty of the people, eating improper food, raw fish often being the staple diet, wearing scanty clothing, living in bamboo houses in rather a rigorous climate—produce a short-lived people. Interviewing many Japanese physicians—in Tokio, Kobe and Nagasaki—we failed to find a single centenarian. In Manila short life was the rule among the natives, and in China no data of longevity was obtainable. In India, the average length of life, outside of large cities, was 30 years,

while in Calcutta, Bombay and Colombo it was only 20 years. In Cairo, Alexandria and Port Said, Egypt, we could not find a record of a single well authenticated centenarian—and one could not look for it when he saw their unwholesome food, lack of hygienic observances and the ever present and abundant fly, scattering disease germs everywhere. In Palestine we find the same conditions existing, for the Turk is here as in Egypt, and with unwashed bodies, illy cooked bread and raw cucumbers eaten with salt—this being their common diet—we found no centenarians either in Palestine, Jaffa or Jerusalem.

In Europe and the British Isles we found the data on longevity, previously obtained from our American ambassadors, which we have given in other pages of this book, corroborated.

AUTHOR.

INTRODUCTION

In all the historic ages of the past, up to the present decade, man has been kindlier to the domestic animals than to himself.

Horses, cattle, and dogs even, have been carefully bred—the weaklings eliminated—so their greatest bodily vigor and its accompanying long life could be assured. But the human family has been ignored; the physically, mentally and morally unfit—the meanest—the degenerate, even, known to be the most prolific of them all—are permitted to breed their kind and people the world.

Do not let us boast of our lineage; the pedigree of the equine, bovine and canine thoroughbreds surpass the heraldry of King or Emperor.

While this book is written to present factors that make for longevity—chiefly climatic, hygienic and dietetic—its ulterior object is to call attention to the importance of cultivating abstemiousness—temperance, mental, moral and physical vigor—qualities which lead up to the maximum of human development.

DR. MARION THRASHER.

San Francisco, 1915.

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health. Food a factor: Meat-eating Indians live to be 60 and nut- and maize-eating Indians 125 to 185.

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More centenarians here than in any other State or country—35 centenarians in San Francisco. Captain Diamond at Crocker’s Old People’s Home, 118 years old and vigorous; Mrs. Electa Kennedy arrived here in 1852 with consumption—recovered and is now (1915) 106 years old and in excellent health.

Many other centenarians of like experience. More than 400 centenarians in California, many of whom give the secret of their long life—and that secret is the *Climate of California*.

Long Life in California

LONGEVITY.

Chapter I.

Longevity in Trees, Men and Animals—The Normal Length of Life According to Buffon and Flourens—Long Life in Different Ages—Insanity and Genius—California Climate Conducive to Long Life—Blaine and Cleveland—Vocations Determine Longevity—Napoleon and Wellington.

Since Adam and Eve dwelt in that historic but possibly mythical Garden of Eden, the Prolongation of Human Life has been the most fascinating problem that has challenged the attention of mankind. The Persian and Greek sages, centuries before Christ, summoned their intellectual forces to solve it, but in vain—the Scholasticism of the Medieval Ages took it up zealously, but with kindred results—and today, in this Twentieth Century, every intelligent mind seeks, though often blindly, its solution.

No man since the dawn of creation has escaped Death; yet each individual, by harkening to Hygienic and Dietetic truth, barring accident, can live to an advanced age. Every man owes it to himself—to his friends and to the commonwealth—to so care for his body, that its healthy action may make him a valued citizen, and that the years of his life may be extended

to their normal limit. "Every man is entitled to his century," says Sir James Crichton Browne.

Longevity may be defined as the duration of life that a healthy individual would attain, under the most favorable conditions. Wild animals, undisturbed, live out their full term of life. Man is the only exception—and of human kind, not more than one in a million fills out his natural limit. Seneca, the Roman philosopher, thinking along the same lines, twenty centuries ago, said in his work on "Shortness of Life": "*Man does not die; he kills himself.*" While all the other animals in their wild untrammelled state know by instinct how to live, what to eat and drink to live out their allotted time, man by his imprudence in diet, drink and manifold excesses, dies before one-fourth his life has been lived. Animals eat only what is good and wholesome for them—the horse and the hog have sense enough to shun what is injurious to them—but man eats and drinks anything and everything—consumes the most indigestible of foods, washing it down with poisonous slops, and wonders why he does not live to be a centenarian!

In theory we all desire long life—in practice we abbreviate our lives to the minimum.

"A short life and a merry one," is the ranting bombast of a braggadocio and a fool. Why this marvelous mechanism of man—perfect in its minutest organism—combining a God-like intelligence with a body sculptors have imitated but have never equalled—should be ruthlessly destroyed by himself, is one of the inexplicable wonders of our creation.

The marble statue of Apollo Belvidere, the writer saw in the Vatican at Rome, the world's famous work of art, is not greater in the perfection of manly beauty than that possessed by thousands of young men in our

midst today; yet the inanimate marble Apollo is as tenderly cared for as a priceless jewel, while the living man—noble, intellectual and refined, with a delicate and sensitive physical structure—gives this wonderful body of his not the attention he gives to his horse or dog.

All, of sound mentality, desire a long, happy and useful life. With our intelligence, longevity should be the rule—now it is the exception.

How many years should a man live when conditions are favorable? Or what is the normal length of man's life—had the generations before him lived, like the other animals, according to their natural law?

Buffon and Flourens have both noted a fixed relation between maturity and the length of life in the mammalia in both animals and man.

The horse, cow, sheep and deer live six times the length of their period of growth, according to Buffon, and five times according to Flourens. The horse matures from 4 to 6—and lives approximately from 20 to 30 years. Cattle mature at 4 and live to 20 years; sheep at 3 and live to 15; dogs at 3 and live to 15; cats at 2 and live to 10; elephants mature at 20 and live to be 100. This ratio is the rule, but exceptions do exist, as Weismann and Bunge have pointed out. Among the mammalia, man is the only one that lives beyond the century mark. As we descend, however, in the vertebrates, longevity increases. The white-headed vulture has been known to live 150 years.

The great tortoise of the Galapagos Islands lives from 200 to 300 years—one recently brought to California was estimated by our naturalists to be 800 years old—while toads have been found dormant, imbedded in rock, reviving on exposure to air, that had been there 500 years and possibly much longer. Bingley tells us

in his "Animal Kingdom" that a stone cutter by the name of Charlton, found in the Isle of Ely a living toad enclosed in a block of marble. The cavity in which it was contained was somewhat larger than the animal, but nearly of the same figure. The toad seemed in perfect health—although the marble was on all sides several inches thick.

The less brain matter possessed by an animal, the greater its longevity. The rule holds good in man as well. No man of high intellectual attainments has lived a century—few of them reach 90—while our geniuses, as a rule, died under 40.

	Died at
George Bancroft	91
Thomas Carlyle	86
Wm. Cullen Bryant	84
Benjamin Franklin	84
Thomas Jefferson	83
Goethe	83
Victor Hugo	83
Lord Palmerston	81

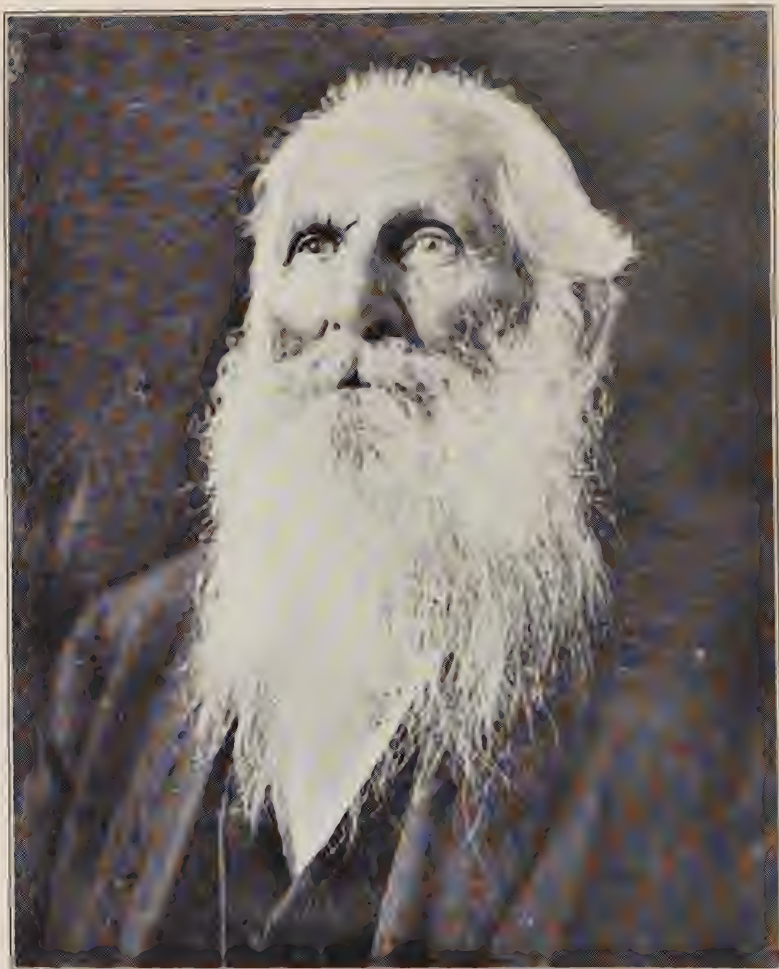
Not any of them attained the age of 100. The genius is shorter lived still, as abnormal brain development, through its high nerve tension, impairs the physical vitality.

Alexander the Great, Mozart, Lord Byron, Poe, Burns, Keats, Lanier, Henry Kirk White and Pollok, all died under 40. The highest mental culture can only be attained by a sedentary life—and a sedentary life is a foe to longevity. Ambition kills by over-working the mind or body. Great brain activity detracts from physical poise, and consequently from bodily health.

The inactive brain of Old Gabriel—the Indian who died at Monterey, Cal., in 1890, aged 151—and Pierre Zortay, the goat herder of Hungary, dying in 1724, aged 185, are examples of phenomenal longevity, which could



LYDIA SHARPLESS, 105 YEARS OLD



CAP. G. E. D. DEAMOND, 118 YEARS OLD

not have existed had they not lived a semi-vegetative life.

What a contrast to these lives do we have in that brilliant and erratic boy genius—Thomas Chatterton, the wonder of the literary world—who burnt his young life out in his teens, dying by his own hand in his seventeenth year.

Dr. Arthur McDonald, in an article on "*Insanity and Genius*," claims that both are abnormal, but singularly akin, and among the erratic geniuses mentions Dante, Tasso, Pascal, Mirabeau, Pope, Voltaire, Jonathan Edwards, Goethe, Victor Hugo, Boileau, Chataubriand and Schopenhaur. "Genius and great talent," he observes, "are those forms of abnormality most beneficial, however, to society."

Genius being a marvelous mental precocity—or brain development, while it may receive the admiration of mankind—like a comet sweeping across the heavens—its life, like the stellar wonder, is almost as brief.

Most physiologists agree with Buffon and Flourens, and assign to man as to other animals, the corresponding ratio of maturity and longevity.

Man maturing at 25 years should have 125 to 150 as his natural term of life. But, you inquire, How can we make this short term of life coincide with the early Bible ages? Adam living 930 years, Methuselah 969 and Noah 950, are, of course, mistakes in calculation. In some of the ages they counted months as years, and again reckoned seasons as years.

Alexander Winchell, a very high authority—who was the writer's honored teacher in the University of Michigan in his "*Geology and Paleontology*," says that "the great Bible ages meant the ages of the family line and not of one individual."

The Biblical biographies as they are chronologically

arranged would of themselves disprove these great ages.

Abraham was born only two years after Noah's death, and lived but 175 years, whereas Noah's age is given as 950 years. This great difference in man's life—of nearly 800 years—dropping in one generation from 950 to 175—could only be reasonably explained on the hypothesis of a mistake in reckoning.

From Abraham, who lived 1996 B. C., to Pierre Zortay of Hungary is 3,360 years; we find little or no change in man's longevity—increasing rather than otherwise—as Pierre Zortay lived ten years longer than Abraham.

Isaac, Abraham's son, lived 180 years; Jacob, 147; Joseph, 110; Moses, 120; David, 71, and Solomon, the wisest of them all, died at 57.

Pliny, writing 76 A. D., gives the following statistics of longevity in his time:

In Italy, between the Appenines and the River Po, there were found—

54 persons.....100 years old	|	4 persons.....130 years old
57 persons.....110 years old		3 persons.....140 years old
2 persons.....120 years old		

From Pliny's time to ours there is but little change in the length of man's life.

Noah Raby, the U. S. mortality statistics of 1908 tell us, died in Middlesex County, New Jersey, in 1904, 131 years old, and old John Long, a colored man, died near Cincinnati in 1886, 141 years old.

This data leads us to a scientific as well as logical conclusion that from the beginning till now, man's term of life has varied but little, in the ages of the past—the reckless, the dissipated and weakly bred dying young, while the careful, under the most favorable conditions, as to climate, temperament and ancestry—a rare com-

bination—have lived out the years nature intended them to live, which is from 125 to 150 years.

Still is it not marvelous, after all, to think of a centenarian, or even a nonogenarian, when we realize that out of 100,000 children born, 50,000 die before they reach 5 years of age?

Now, again, take 100,000 children who have survived and reached the age of 10 years—out of that number only three live to be 95.

Truly our modern civilization of which we boast is sadly wanting in the art of Hygiene and Dietetics, when we witness this appalling devastation of our species before they have finished half their normal life.

Air, food, water, heredity and temperament are all influential factors in longevity.

Air, when impure, fosters tuberculosis, and consumption kills one-fourth of the human race. Food, if unwholesome, shortens life; water may carry death-dealing germs; spirituous liquors destroy untold millions; heredity, if bad or good, minimizes or lengthens life—all of which will be fully amplified in succeeding chapters.

Temperament, last but not by any means least, is an influence in longevity that we cannot ignore. If a placid disposition, all things being equal, life will be long—if irascible, life will be brief.

The writer once owned a team of horses—a Jersey match—i. e., a black and a white one. The black was unexcitable and serene, the white peevish, and at the end of a journey the white horse was foaming and fagged, while the black had not turned a hair, and seemed as fresh as when we started. In all the animals, the skin of the white one is thinner; he is more sensitive—he worries—he dies younger.

Men have the same identical characteristics. Blaine

and Cleveland, our two distinguished Americans, were examples.

The night before the Presidential election in 1884, the writer was in the same boat and train with Mr. Blaine, from New York to Boston. He had seen Blaine eight years before in Congress at Washington, and the eloquent orator from Maine was then young, brilliant and dashing—he was indeed the “Plumed Knight” that Ingersoll dubbed him—now he was seamed, and wearied and saddened.

An Indianapolis Democratic paper had unearthed a skeleton from Blaine’s closet, and that with the worries of the campaign—the fiercest known in American history—he was plainly dying, and died soon after at the early age of 63. He was the “white horse.”

Cleveland was his antithesis in temperament, and when the Republican sleuths had ferreted out a similar scandal on Cleveland, and reporters flocked like a lot of vultures to the salacious repast, he routed them, “horse, foot and dragoon,” when they requested an explanation, by nonchalantly telling them “*to go and ask Marie*,” a nameless individual whom no one knew. Cleveland was the black horse, nerveless, and lived to serve through two subsequent Presidential terms, and died at an advanced age.

Napoleon and Wellington are further instances of temperament and its bearing on longevity. Napoleon, the greatest Frenchman France ever had, and the most loyal, was not a Frenchman at all, but a Corsican; yet of such a nervous temperament that we might class him among the Celtic neurotics. Sherman’s truism, “War is hell,” was applicable in Napoleon’s time as now, and the great general fretted unceasingly—from the siege of Toulon to Waterloo—and died at 52 with cancer of the

stomach, a cancer developed undoubtedly from indigestion, and the indigestion from worry.

Wellington, fitly named the "*Iron Duke*," a man destitute of nerves, as his sobriquet would indicate, was the black horse, and did not fret, and lived to be 83.

Marriage, when placid, fosters longevity; when stormy, it results in a short life or a divorce court.

Matthew and Mark's advice, "*What, therefore, God hath joined together, let not man put asunder,*" is good advice—but when the devil joins them, and he officiates, ten times to God's one, a divorce court is the only rational remedy.

Judging from the records of our police courts, a large percentage of our marriages—under our lax laws—are vile combinations of wrangling and discord, uniting often the drunkard and the prostitute, the criminal and the pervert, the bully and the neurotic, the deaf and the dumb, the deformed and the cripple, to furnish us our future citizens. To charge God with all this miserable work would certainly be impeaching His wisdom, and to say these marriages should not be "put assunder" would be calling in question man's intelligence.

All lines of thought, psychology, literature, philosophy, art, science and invention have been searchingly developed; but the art of eating rationally is an unknown art—and living out our normal life (of 125 to 150 years) is occasionally studied as a theory, but rarely practiced.

When we advocate the Simple Life that Wagner advanced, and the abstemiousness of Cornaro, as conducive to longevity, the epicure asks, "Is it worth it? Is not wine, whisky and beer preferable to water and milk? Is not a French or Italian dinner, with its comprehensive menu, more to be desired than a plain New

England dinner? Is not drunkenness, carousal and revelry jollier than a quiet evening with books and music and the converse of old friends?"

Every man must decide for himself. If a short life and a merry one is preferred, he is at liberty to do as he likes—but remember, if you "sow the wind, you reap the whirlwind;" if you violate Nature's laws, you pay for it in pain, misery and a short life. In that Book we all venerate, whether or not we follow its teachings, the stern edict has come down to us from a distant past, the "*wages of sin is death*," the sinning including anything and everything that impairs and destroys the body, and its penalty is as inexorable as fate.

Longevity should be greatly desired by all men, if for no other reason than that it gives us freedom from pain, sickness and disease, as it is an incontrovertible fact that long-lived people are immune from most of the ills of life.

Pure air, pure food, absence of worry, and better sanitary surroundings—conditions generally found in the country, and essential to health—produce preponderatingly more old people in rural districts than are found in towns and cities. Among the centenarians of history we know of but few city-bred, while the country can produce its thousands, ranging from 100 to 185 years of age.

If we would strive for long life as we strive for the "Almighty Dollar," instead of one-third of our population being disabled from sickness, living out at best a short and miserable life, America would be a country peopled by centenarians.

Dr. Edward Jarvis says that "1,500,000 persons die annually in the United States, and at all times there are 3,000,000 persons seriously ill.

There can be no doubt that out of the fatality list, 1,000,000 persons could be saved annually by hygienic and dietetic care, and at least 2,000,000 persons seriously ill could be kept well and saved the suffering entailed on them by disease, if personal, municipal and federal hygiene were strictly enforced. Outside of the serious illness we have mentioned, we have a lighter sickness, such as malaria, of which we have 3,000,000 cases in the United States annually, which is practically entirely preventable."

Many efforts have been made by biologists and other scientists to accurately determine the normal longevity of man.

Even Buffon's estimate of 150 years is evidently too short, as we have numerous instances of persons living far beyond that period, so we are led to believe that 200 years possibly would be nearer the limit of man's natural life. A writer, speaking of the autopsy made on Thomas Parr, aged 152, who died in London in 1636, says: "His death is a corroborating circumstance that the life of man, by attention to the laws of nature, might probably be extended to the term of 200 years, for on his body being opened by Dr. Harvey, it was found to be in a most perfect state, the only cause of his death being a mere plethora, brought on by a more luxurious living in London than he had been accustomed to in his native country, where his food was very plain and homely; hence there are strong grounds for asserting that the organization and vital powers of many men are capable of supporting a duration and activity for 200 years."

In determining causes that lead up to longevity, we cannot forget atavism. The writer is partially bald, his father died at 76, with a heavy growth of hair on his

head—his father died at 89, with abundance of hair—his father, the writer's paternal great-grandfather, died at 91 nearly bald—heredity here going over two generations to the third.

Going back twenty generations, each of us has a million ancestors—and is it any wonder that the proverbial "black sheep" is in every family, when we consider that among these million ancestors there are murderers, thieves, forgers, wantons, highwaymen and every conceivable genus of criminals?—it is a matter of astonishment that we are not most of us black sheep. Doubtless we would be were it not for the corrective influence of church, state, newspapers and public opinion, forces that have been handed down through generations as educational legacies of higher ideals.

Longevity is not a calamity, as many suppose—a synonym for imbecility—for those who live long as a rule are healthy and capable. Old age is now alert, independent, able to do literary work, and advise with the wisdom of experience.

The modern man of 90 or over is a banker, a statesman, a traveler, sought after as a genial mentor and companion. How different from 300 years ago in Shakespeare's time, when the seventh age of man was the age of weakness, decrepitude and senility, "sans teeth, sans eyes, sans taste, sans everything."

Longevity means then health, prosperity and happiness. Short life means sickness, suffering, poverty and misery.

Dr. George M. Gould estimates sickness and untimely death in the United States to cost \$3,000,000,000 annually, of which at least one-third is preventable. Lambert says: "It costs no more to 'raise' a man capable

of living for 80 years than it does to 'grow' one who has not the capacity of living to be 40 years old."

Longevity includes a wide range of problems, and like eternity, it has neither beginning nor ending.

Dr. Oliver Wendell Holmes says: "To secure health and longevity we must go back to our great-grandfather and set him right." Theoretically true, but wholly impracticable. This view of the author of the "Autocrat of the Breakfast Table" is both pessimistic and impossible.

The biological science of today is more hopeful. P. Chalmers Mitchell says: "Three chief evils that hang over us are disease, old age and death."

Disease has in a measure been conquered and many of our optimistic scientists believe that in a few decades all disease will be banished by wise personal, municipal and federal hygiene. A high general life average, through modern sanitation, is becoming the rule among civilized nations and not the exception—and the time will come, if advancement along these lines continues, when all will fill out a normal life of health and happiness.

Then death—that now hangs like a dreaded nightmare over every life—preceded usually with so much pain and suffering, will be a natural death, peaceful and serene as the close of a summer's day.

Through atavistic heredity, longevity, like genius, occasionally appears to surprise the world with a normal life of 125 to 150 years. In our million ancestors—twenty generations back—we need not be surprised that there appears in a family anything from a monster, a giant, a dwarf, a more than a centenarian, an imbecile, a genius, to an outlaw who sets a continent ablaze with his criminality.

These do not belong to their parents, but to a remote ancestor of their family. "Like begets like," is as true in man as it is in the vegetable world. A pure breed of perfect men and women could be approximately generated in five centuries if we gave the breeding of human beings the same attention that we do to our bull dogs and our race horses. More's Utopia would then be realized, disease and criminality would disappear and happiness would reign on the earth.

Legislation is progressing in that direction. In many states they are sterilizing confirmed criminals and if all unfit subjects were unsexed, we could soon look forward to a more perfect race.

Prof. Irving Fisher of Yale has prepared a report on National Vitality at the request of the Government, which he sends us, in which he says in summarizing: "The Committee of Fifty found that alcohol and effective work are incompatible; that tobacco interferes with one's 'wind'—in other words, it affects the heart—that lean meat putrefies in the large intestine, producing 'auto-intoxication'; that the present working day is too long, producing over-fatigue, which calls for stimulants, that lead to drunkenness; that there are 500,000 persons in the United States who have tuberculosis, 2,000,000 estimated syphilitics, both of which diseases are preventable. A wise and far-sighted economy will lead the nation to conserve its vital resources by every possible method. Marriage alliances should be prevented among criminals, paupers, feeble-minded and those suffering from transmissible diseases, and confirmed criminals, imbeciles and rapists, as in Indiana, Connecticut and Michigan, should be unsexed by a surgical operation—the multiplication of degenerates should thereby be made impossible."

With increase of knowledge and the complexities of our modern life, social and political, better understood, the period of education must constantly increase. This fact creates a need for a longer life, and the creation of a population containing a large number of vigorous old men. "The old man," as Metchnikoff says, "will no longer be subject to loss of memory, or to intellectual weakness; he will be able to apply his great experience to the most complicated and delicate parts of the social life. It is usually recognized that human life is abnormally short. Flourens maintains that a mammal lives five times the length of its growing period, which would mean, since the growing period of man does not cease until about thirty, a normal human lifetime of 150 years."

Many remarkable cases of longevity are on record. Drakenburg's age of 146 has been authenticated, and Mrs. Wood, of Portland, Oregon, who recently (1910) died, aged 120.

According to Prof. Fisher, longevity was affected by the number of rooms occupied by tenants in large cities—if one room, 27 died to every 1,000; if three rooms were occupied, 19 only died in every 1,000; if five rooms, only 11 died to every 1,000. In the rich quarter only 13 died to the 1,000; in the poor quarter, 31 die to the 1,000.

Occupations have also much to do with longevity. The average life of the merchant is 80 years; clergy, 70 years; lawyers and physicians, 66 years; laborers, 50 years.

During the 18th century 50,000,000 died of small-pox in Europe. Since vaccination by Jenner came into use only a few hundred die yearly. Since vaccination has been compulsory only 7/10 of 1 per cent die with small-

pox. One hundred years ago 11 out of 12 died who were attacked with small-pox.

Since 1793 yellow fever killed 100,000 persons in the United States. In 1900 it was discovered that a species of mosquito transmitted the disease, and by destroying the mosquito yellow fever has been banished from the country.

California leads the world in sanitation,, longevity and progressive legislation. Like Aselzion, in Marie Corelli's charming novel, "The Life Everlasting," the invigorating climate of the Golden State seems to be endowed with the supernal power of stamping health and youth on the brow of Age, and exempting mankind from the diseases of heredity acquirement that have clung to the race as a nemesis, in all the ages of the past.

Dr. Wm. Osler recently (July, 1914) stated in an address in England that 90 per cent of humanity has a taint of tuberculosis. It seems possible, when we consider the foul air of the average bedroom in which we are immured one-third of our lives. Millions are spent annually to care for the tuberculosis victims. If people were taught the simple truth that pure air would prevent pulmonary consumption, pure air breathed during the twenty-four hours of the day, the white plague would soon be a thing of the past. There is an impression abroad in the land that night air is poisonous—it is dangerously poisonous inside of a house where windows and doors are closed. All physicians now know that tuberculosis is preventable, and nearly always curable with pure air. The writer sent a tuberculosis patient who had acquired it in an illy ventilated workshop in San Francisco to Arizona, and by living for seven months a tent life, breathing pure air night and day, she returned cured.

Gluttony is a fair running mate to its twin brother, drunkenness in the destruction of the human race. A conservative estimate places King Alcohol as the destroyer of 200,000 lives in the United States annually, but the number slaughtered by unwholesome food and general dissipation is beyond mathematical computation.

Life to a biologist has many amusing features. The technique of table manners is scrupulously observed by all refined people. A man who would eat with his knife and use a toothpick at the table would be shunned, but these same fastidious diners, who often show more ignorance on weightier subjects of what to eat and how to eat than the boor they deride, forgetting they have no craw and gravel as a turkey. They swallow food scarcely masticated, and when by chance deglutition is prevented or retarded by the size of the food they are trying to force into the stomach, they prevent asphyxiation by quickly and deftly throwing into their mouth a glass of beer or coffee to wash the food down, which, while preventing a present catastrophe, cannot obviate future ill results. Their choice of wholesome food is equally at fault. Rich dressing, gravies, pies, puddings, cakes, pickles, are all indigestible and poisonous to the human economy, yet our aesthetic critic, who looks with disgust at what he calls the "knife-swallowing" act of the ignorant and ill-mannered, inflicts upon himself a far greater injury in the ingestion of these unsanitary and unwholesome viands.

Hygienics is the most important study in the college curriculum. Of what benefit is a university education if our life is jeopardized or destroyed or half lived out? Health reformation can take place, if we give a thought to the peril.

Luigi Cornaro (1467-1567), the Italian nobleman,

philanthropist and scholar, at 40 was, as he tells us, dissipated, weak, with one foot in the grave; but seeing his folly, reformed, quit wine, revelry and gourmandizing, became temperate and abstemious, and lived to be 100 years old. His charming autobiography, which should be in every library, informs us that robust health, vigor and even virility returned to him, and to the last year of his remarkably long life, he enjoyed living to the utmost, contributing to the welfare and happiness of his countrymen.

If we studied as assiduously how to prolong life as we do how to destroy it, most of us would live to be centenarians. Pure food, pure air and temperate habits will as certainly bring to us a healthy, happy and long life as its opposite will produce disease, misery and early death. From 1890 to 1900 the average duration of human life has increased in the United States from 31 to 35 years, a gain of four years in a decade, due to stricter sanitary observances.

Where population is congested and bread-getting difficult, vocations are decisive factors in longevity. The knife grinders, stone cutters, colliers, clerks, bookkeepers and factory workmen—the indoor workers—have not an equal chance for long life as the toilers in the open air. Clergymen, lawyers, physicians and literary men, because they can keep themselves better groomed, and can better regulate their surroundings, are longer lived than the man who labors with his hands. Religious people, interesting to observe from a scientific and psychological standpoint, all things being equal, are longer lived than the irreligious, for the deadly worry concerning the hereafter is in a measure eliminated, as their religion inspires in their breasts a peace and contentment denied the unbeliever.

The Almshouse is the repository of long-lived people, because the anxiety incident to earning a livelihood troubles them no more, and this great foe to longevity—worry—has been removed.

Climate must be classed as one of the principal factors in long life. As man's habitat by nature is a semi-tropical climate, we here find him attaining the greatest age. In the arctic climate few live longer than forty—but as we descend towards the tropics life lengthens—and when California and Mexico are reached, we find men living 125 to 150 years old. In cold Norway and Russia few centenarians are found, but in warm Spain and Bulgaria we find them very abundant.

California especially has a climate ideal for long life. Nature has dealt with us with marked kindness. Our shores are bathed with the warm Japanese or North Pacific current, 1,200 miles wide, sweeping down our coast from the north, giving to us a winterless year and an eternal summer. We have convincing proof of the superiority of our California climate to all others, in our Indians and trees—Indians, which we will substantiate later, living nearly 200 years, and the Redwood (*Gigantea Sequoia*) reaching the phenomenal age of 8,000 years. Such remarkable longevity has not its counterpart in any other country in the world.

For centuries the civilized nations have had their eyes turned toward this wonderland. Our Golden State has a romance ante-dating Drake (1580) and even Cabrillo (1540). *García de Montalvo*, an historical novelist, contemporaneous with Columbus, wrote in "SERGAS DEL ESPLANDIOM," that "On the right hand of the Indies, there is an island, called California, very near to a terrestrial paradise, peopled solely by beautiful Amazons,

whose costumes were wholly of gold, as there was no other metal in the country."

The reasons for the California climate being superior to all others are, its warmth, its equability, and its sea-level position.

Warmth is life—cold is death—and for this reason we have only 23 centenarians in frigid Norway, while we have in warm Spain 410. An unvariable temperature is another essential—for a changeable climate, the extremes of temperature, shock the system and produce a multiplicity of diseases detrimental to life.

All writers on longevity tell us that a sea-level climate is most favorable to long life—and have cited the fact that mountainous Switzerland, notwithstanding its pure air, has not, on account of its altitude, a single centenarian in all its domain.

The average winter and summer climate of the California sea coast and valleys vary only a few degrees in the entire year. The average winter temperature of San Francisco is 51 degrees—the average summer temperature 59 degrees, making San Francisco the finest summer or winter resort of any other city in the world. The lowest temperature ever recorded here was 20 degrees above zero. Snow has fallen but six times in the city's history, and then remained on the ground but a few minutes.

Flowers bloom the year round in our door-yards and are sold on the street corners every day in the year. It is this warm, never varying climate of our Pacific Coast that brings prosperity, happiness, health and long life to our people. Men have many peculiar ideas regarding health. Paul said the unbeliever's philosophy was—"Eat, drink and be merry, for tomorrow we die."

If translated—eating wholesome food abstemiously, drinking milk or water, and being merry with the exuberance of health, it is an admonition worthy of obedience—but if it is to be interpreted as it generally is—by gluttony, drunkenness and carousal, it should unquestionably be ignored.

“We die when our time comes” is another saying equally fatal if followed. Our time comes as we will it. If we like, we can destroy our bodies in a brief time—if wise, we can conserve our lives to an advanced age. Humboldt, dying at 90, working 15 hours daily, accomplished four men’s work. It takes 40 years to have a matured intellectuality—and the following 50 years the great German did his most effective work.

The idea attributed to Osler, though he strenuously denies it, that man becomes obsolete at 40 and should be chloroformed, is a statement so utterly absurd as to require no comment—as the greatest work of our greatest minds has been performed after 40.

The betterment of human kind should be the chief object of each individual, and if the full length of life is lived the greater will be the amount of good accomplished. With long life an opportunity would come for greater mental attainments, as instanced in the Darwin family—where four generations, Galton says, in direct line (Erasmus, Charles, George, Horace and Francis) show scientific ability of the first rank. Prof. Fisher says: “President Roosevelt has pointed out that ‘race suicide’ is a sign of coming decay. Mere numerical increase is not the whole solution, however, there must be improvement in quality also. A race that cannot hold its fiber strong and true, deserves to suffer extinction through ‘race suicide’ as it is a well-known fact that

degenerates have large families." One child like Humboldt or Agassiz is worth a thousand dullards.

When the automobile usurps the horse on the streets of our cities we will find many diseases disappear. Prof. Fisher in his report on National Vitality says: "The probable elimination of the horse from our city life, through automobiles, will go far to improve our city atmosphere. The problem of city air will be half solved when our streets reach their proper state of cleanliness. The gradual elimination of the horse will tend not only to provide cleaner air, but also reduce the dangers from flies. It is in horse manure that the common house-fly (typhoid fly) chiefly breeds."

Doctor Howard attributes "the termination of typhoid in certain districts of Washington to the displacement of the horse by the automobile. Only within a dozen years has the dread importance of insect carriers of disease been realized. That mosquitos carry malarial germs; that flies are the propagators of typhoid, cholera and other infectious diseases; that rats breed fleas which transmit to man the dreaded Asiatic plague—all this is of recent origin. There are 500,000 cases of typhoid in the United States annually, and some 50,000 deaths. There are 60,000 deaths annually from cholera infantum. Nearly all could be prevented if the fly nuisance were abated."

These and kindred subjects bearing directly on National, municipal and individual sanitation, are of primal importance in the amelioration of our race—and should receive a prominent place in every nation's legislation.

A sound mind in a sound body has in all ages been recognized therapeutically and theoretically, but never scientifically put into practice by a commonwealth until recently.

We are at last awakened to the fact that longevity, and what it stands for, are supreme factors in individual and national life. Hufeland has affirmed that "the duration of man's life is 200 years"—but in consequence of the weak organs we inherit from our ancestry, and the injury we do our sound ones by our manner of living, longevity of today is a very indeterminate quantity.

Some die of old age at 40—some at 60—and some at 100 and even older. One man is older at 30 than another is at 60—age being determined by the condition of the vital organs.

The youngest old man on record was Louis II, King of Hungary. He was crowned when two years old, succeeded to the throne in his tenth year—was married in his fifteenth, and died, worn out and grey, of old age—in his twentieth year.

The U. S. Census Reports tell us that in 1900 there were 3,504 persons in the United States over 100 years old. Probably not one-tenth of the actual number was recorded.

In 1850 there were 11 persons to the 100,000 over 100 years old—in 1860 there were 10—in 1870 there were 9—in 1880 there were 8—in 1890 there were 6 and in 1900 only 5 centenarians to every 100,000 of inhabitants—the number growing fewer and fewer with each succeeding decade.

Why this gradual lessening of the number of centenarians? The only reason that we can logically advance is that our constantly increasing wealth per capita leads to all manner of reckless dissipation, which results in shortening life. This also gives us the solution of the problem, why we have more extremely old women than men—because the female is not so prone to dissipation as the male—but the *general average of life is greater.*

"The days of our years are three score and ten" was the summing up of human longevity 3,000 years ago by King David or Moses (authorities disagree as to the authorship of the ninetieth Psalm).

It is more likely to be David's prophecy as he survived but a year longer than this computation—while Moses lived one hundred and twenty years.

The ninetieth Psalm—of which this quotation is a part—carries with it at its conclusion, a tinge of sadness, more in accord with David's than Moses' life. David's numerous liaisons doubtless so harassed him that he became pessimistic, and this led him to think that 70 years were long enough for man to live.

Solomon, in one of his Proverbs, advising for longevity, says: *"For by me thy days shall be multiplied, and the years of thy life shall be increased"*—yet he himself died at the early age of 57.

Until eugenics shall have realized the hope of its founder—Sir Francis Galton—and in the words of a follower—"How rapidly the race would advance if mankind should resolve 'The next generation must be born with healthy bodies—must be nurtured in healthy physical and moral environments—and must be filled with the ambition to again give birth to a still healthier, still nobler generation'—until that millennium comes, we cannot hope for a material increase in the number of centenarians."

If it takes five generations of culture and refinement to make a gentleman—it will take at least five generations of intelligent living with a wise marriage law to breed a race of men who will meet the requirements of their normal longevity, and thus fulfil the measure of their destiny—in accomplishing the greatest good to mankind, along the broadest lines.

CHAPTER II.

Longevity in Other Countries and Ages.

Longevity in Bible Times—St. Mongah 185 Years Old—Man's Normal Life 150 Years—Eugenics Would Increase—Longevity—Lorand Says Old Age Can Be Deferred—Charles I Interviews Old Parr—Goat Herders of Bulgaria—Numas de Cugna Died in 1566—300 Years Old.

The question arises, Do we live longer now than did our ancestors in ancient times? In tracing longevity through Sacred and Profane History, we find no well authenticated instance of any human being living 200 years.

Thompson tells us that in Norway in 1763, in the District of Akerhus, where the food was milk, oatbread, cheese and salt fish—but no meat, there were 120 people over 100 and 70 of these over 110. Today, since Norway has become a meat-eating nation, there are only 23 centenarians in all Norway. James Easton in his work on Longevity in England in the 16th and 17th centuries gives a list of 1,712 persons who lived from 100 to 185 years of age. Among these he mentions:

Henry Jenkins	169	Peter Torton	185
Thos. Parr	152	Margaret Patten	137
Lywarch Hen	150	John Rovin	172
Countess Desmond	145	St. Mongah	185
Thomas Damme	154		

If we have fewer people today who live a century and a half, may we not attribute it to the fact that two

centuries ago the people led a simpler life—eating simpler food?

Today we are prodigious meat eaters and use more alcoholic liquors and tobacco—and indulge in every conceivable and inconceivable form of dissipation.

J. E. Worcester on Longevity in New Hampshire gives us a long list of centenarians in that State—ranging from 100 to 116 years. He also gives 132 persons in other States ranging in age from 110 to 150 years—the latter being Flora Thompson, a negress, who died at Harba Island, Pennsylvania, a century and a half old, whose age was verified. Karl Pierson in "The Chances of Death" tells us when dealing with old age vitality in France, he found ten people in a million born who lived beyond 115 years.

In the U. S. Mortality Statistics of 1908 the writer says: "With better Hygiene and superior Eugenics, and the proper methods of living, the extreme limit of life might be more frequently attained, and that after many generations, the average of humanity might perhaps approximate to the limit of 110 to 150 years."

Prof. John Glover, of the University of Michigan, writes: "It is not unlikely that the normal age of man is somewhere near 150 years—that both mental and physical vigor may normally continue long after the age of 100 has been passed—that a period which now corresponds to the weakness of senility and old age should not arrive under ideal conditions, until after the age of 125.

"In New Jersey, the U. S. Mortality Statistics reports that Noah Raby, previously referred to, "died in Middlesex County on March 1, 1904, aged 131 years and 11 months. He was born in Gates County, North Carolina, April 1, 1772, entered U. S. Navy and served

until honorably discharged in 1809. He never married, but it is said smoked and chewed tobacco for 122 years."

The U. S. Mortality Statistics in 1900 show that of all European countries, Bulgaria, Roumania and Servia, had more centenarians than any other countries in Europe—and that Belgium, Germany, Sweden and Switzerland had fewer persons who had reached the century mark.

In the United States, judging from the mortality of centenarians, twice the number of centenarians were found than even in Bulgaria, the longest lived nation in Europe—and in California we have found a greater number of centenarians, nonogenarians and octogenarians than in any other state or country we have examined.

In the United States Mortality Statistics 1900-1905:

24 males and	41 females died	100 years of age
4 males and	6 females died	101 years of age
6 males and	9 females died	102 years of age
5 males and	13 females died	103 years of age
6 males and	4 females died	104 years of age
2 males and	11 females died	105 years of age
1 male and	4 females died	106 years of age
3 males and	2 females died	107 years of age
2 males and	2 females died	110 years of age
1 male and	2 females died	112 years of age
1 male and	1 female died	115 years of age
1 male and	1 female died	125 years of age
1 male and	0 females died	129 years of age
1 male and	0 females died	131 years of age

Fifty-six men and 94 women lived to these great ages—showing more women enjoying longevity than men—but the maximum ages of 129 and 131 reached by men. The data of those living beyond 100 in the United States are not by any means satisfactory and cannot be accurately secured.

Metchnikoff says, referring to the list of men, who in past ages are said to have lived beyond 200 years:

"Much more confidence can be placed in some facts relating to more modern times—according to which extreme old age reached by man was 185 years."

Lorand tells us in "*Old Age Deferred*" many interesting peculiarities of longevity—"Thomas Parr, who lived to nearly 153, was accused of having committed a sexual offense in his 102d year, for which he was found guilty and punished.

"Drakenburg, a Dane who was buried in the Cathedral of Arrhus, Denmark, lived 146 years, and was more often drunk than sober. Peter Albrecht, who lived to be 123—married in his 85th year and had seven children.

"Gurgen Douglas, born near Gothenburg, Sweden, who reached 120 years and 7 months, married in his 85th year and had 8 children—one of which was born in his 103rd year. This child was an idiot—though otherwise well developed."

Thomas Parr's (1483-1635) death in his 153rd year is attributed to a change of diet. At his country home he lived chiefly on milk and vegetables, and labored until after he was 130 years old. In 1635, the Earl of Arundel took him to London at the request of Charles I. King Charles said to him: "You have lived longer than other men. What have you done more than other men?" Parr epigrammatically replied: "I keep my head cool by temperance, my feet warm by exercise. I rise early—go to bed early—keep my eyes open and my mouth shut." The rich food of the royal household did not agree with Parr, however, and though 152 years of frugal life were unable to kill him—nine months of the King's food succeeded in laying him away in Westminster Abbey. Dr. Harvey, discoverer of the circulation of the

blood, performed an autopsy and discovered no internal marks of decay.

Pritchard tells us of a colored woman in North Carolina 140 years and a man 125 years old. We have collected the records of the following persons who reached and exceeded the age of 125 years—M. Flouren's limit of human life—and one exceeding Buffon's limit. With few exceptions, they are found in the British Isles, possibly for the reason of birth and death records there being better kept:

Died.	Age.
1759 Don Cameron, England.....	130 years
1766 John Delasemer	131 years
George King	129 years
1767 John Taylor	130 years
1774 Wm. Beatti	133 years
1778 John Watson	130 years
1780 Robt. McBride	127 years
Wm. Ellis	131 years
1764 Eliza Taylor	131 years
1775 Peter Garden	131 years
1764 Eliza Merchant	133 years
1772 Mrs. Keith	133 years
1767 Francis Ange	134 years
1777 John Brooks	134 years
1714 Jane Harrison	133 years
1759 James Shellie	136 years
1768 Catherine Noonan	136 years
1771 Margaret Foster	136 years
1776 Julius Miarait	137 years
1768 J. McDonough	138 years
1770 — Fairbrother	138 years
1772 Mrs. Clum	138 years
Countess of Desmond.....	140 years
1778 Swarling (a monk).....	142 years
1757 John Effingham	144 years
1782 Evan Williams	145 years
1766 Thos. Winsloe	146 years
1772 J. C. Drakenburg.....	146 years
1652 Wm. Mead	148 years

Died.		Age.
1768	Francis Confi	150 years
1542	Thos. Newman	152 years
1656	James Bowels	152 years
	Henry West	152 years
1648	Thomas Damme	149 years
1635	Thomas Parr	152 years
1797	Jos. Surrington	160 years
1668	Wm. Edwards	168 years
1670	Henry Jenkins	169 years
1780	Louisa Truxe (South America).....	175 years
1820	Solomon Nibet	143 years
1822	Lucretia Stewart	130 years
1839	Wm. James (South Carolina).....	132 years
1846	Thos. Lightfoot (Canada).....	127 years
1861	Marion Moore	131 years
1869	— Lockhart (Iowa).....	127 years
1878	Eulalia Perez (California).....	140 years
	Edna Goodman (Arkansas).....	127 years
1888	Granny Rose (South Carolina).....	131 years
1889	— Wapmark (Germany).....	126 years

Five of these mentioned are found in the United States, and the oldest of these is found in California.

European Longevity—German statisticians, who report the results of recent investigations, say that the German Empire, with a population of 85,000,000, has but 78 persons who are more than 100 years old.

France, with a population of less than 40,000,000 has 213 who have passed their 100th birthday. England has 146, Scotland 46, Denmark 2, Belgium 5, Sweden 10, Norway 23.

Switzerland cannot boast of a single centenarian, but Spain, with about 18,000,000, has 410. Servia has 573 who are more than 100 years old, Roumania has 1,084 and Bulgaria 3,883. In other words, Bulgaria has a centenarian for every thousand of its inhabitants, and this holds the European, if not the world's, record for old people. In most of these countries, both Church

and State require exact records of registration of births—and the record is indisputable. On account of this thoroughness in registration, not observed in other countries, may in a measure account for the great number of centenarians found in Bulgaria.

Now, what is the cause of so great a difference in the number of centenarians in the several European countries? The wine of France produces more centenarians than the beer of Germany, and the goats' milk and cheese of the Bulgarians produce ten times more centenarians than the plum pudding and roast beef of England.

Striking instances of longevity in the remote past ages must be regarded with doubt, but since Sacred and Profane History began we can find no reliable record of any human being living to the age of 200 years.

Several writers of known probity, however, have cited instances of persons living to the age of 185—yet these are extremely rare. The trend of longeval writers in all times shows that centenarians have been in evidence in every country and period of the world's history, and where the simple life is followed, a far greater number of long lived people are found.

The history of Margaret Krassowna—a Polish woman who died in 1763, aged 108—is related by Thompson, and presents some interesting phases. When 94 she married for her third husband Gaspard Raykolt, who was then 105. His father had previously died at 119. During the fourteen years they lived together she, it is said, brought to him two boys and a girl, and these children from their very birth bore evident marks of the extreme age of their parents, their hair being grey, and a vacuity appearing in their gums, like that which is occasioned by loss of teeth, though they never had any. They had not strength enough, as they grew up,

to chew solid food, but lived on bread and soup. They were of proper size for their age, but their backs were bent, their complexions sallow, and they had all the marks of decrepitude.

Dr. Van Oven, an authority who has made extensive research on old age, has given us seventeen examples of persons who have undoubtedly exceeded 150 years. Haller says the vital forces of man are sufficient in some instances, of reaching 200 years.

The inhabitants of Southern Russia are noted for their longevity. In the village of Aul Misar lives a woman, Nakulta Karginova, aged 139, and a man, Kawdyn Yeloyeff, 142, who has a son 82. They both are temperate and the Church records attest to their great ages.

Maffens, a Portuguese author, tells us of Numas de Cugna, a native of Bengal, India, who died in 1566 at the incredible age of 300 years. (In 1913 the writer was in Bengal, India, and could learn of no person of great age.)

Sophia Gab, a negress, died in Chicago in 1904, aged 129 years. Born a slave, she spent most all her life on a plantation near Richmond, Va. When freed, during the Civil War, she was 87 years old.

Old John Long, colored, 139 years old, was living in 1884, in "Happy Hollow," a negro suburb of Cincinnati, and was, according to his sale papers, shown to the writer, 145 years old, having been born in Fairfax County, Virginia, in 1739. He remembered Light Horse Harry Lee of the Revolution, was sold to a Kentuckian in 1790—later was sent to Nashville, Tennessee, and saw General Jackson's army leaving for New Orleans in 1812. The writer knew him well—he was a giant in

stature, lived on cornbread, potatoes and bacon, and used no tobacco nor whiskey.

The two oldest twins in the world live in Babylon, New York—Samuel and William Muncie, aged 96 years (1914). They neither use tobacco nor whiskey. Hannah Koshoff lives (1914) at the Daughters of Israel's home, 32 East 119th street, New York City, 116 years old. Joseph Fray, of 77 East 121st street, is 113 years old. Lucy Fry celebrated her 124th birthday at Culpepper, Va., June 19, 1914. Jonathan Wax, of Ft. Scott, Kan., is 103 years old, and the secret of his long life he tells us is "to laugh and joke instead of frowning and growling." John Smith, a Chippewa Indian, living now (1914) in Minnesota near Minneapolis, is 128 years old, as shown by Government records.

Although Thomas Cam, as shown in the parish register of St. Leonard's, Shoreditch, England, died January 28, 1588, aged 207 years, we would have some doubts as to its accuracy, though it is not impossible.

James Sands, of Staffordshire, is mentioned in Fuller's "Book of Worthies" as having lived 140 years, and his wife 120 years. As a very convincing proof of his age, it was stated in court that he outlived five leases of twenty-one years each, made by him after his marriage.

Rebecca Clark died July 6, 1914, in Woodgreen, London, 110 years of age—the oldest British subject.

The writer received a letter from Julia Ward Howe, the distinguished authoress, of "*The Battle Hymn of the Republic*," May 7, 1910, in her 91st year. "You ask me the secret of my long life. It is scarcely by inheritance, as my parents died, mother at 27, father at 53. I acquired a habit of regular reading and study which enabled me to maintain what I myself call a mental

equilibrium. I believe in a Divine Providence, but I do not-try to explain it."

Miss Clara Barton, America's most beloved Civil War nurse, on her ninetieth birthday, writes, January 1, 1912, from Glen Echo, Maryland, the secret of her long life, in these terse words: "*Low fare and hard work.*"

General Daniel E. Sickles, Major-General United States Army, retired, in his 88th year, sends a letter to the writer, January 29, 1912, from his home, 23 Fifth avenue, New York City, as follows: "My longevity to which you refer, and about which you desire some information, I attribute to a life of temperate habits. I see well, hear well, sleep well and enjoy life. I am capable still of doing a good day's work, which I perform now, as heretofore, daily. If I am guilty of any excess, it is perhaps in doing more work than it is provident to do, but I enjoy my work, and therefore indulge myself in that direction. So far as I know, I am the oldest living man who has survived so many years an amputation of one of his legs—my right leg.* I have walked on crutches for almost fifty years. I am inclined to think that the exercise involved has enabled me to preserve my strength and vigor. Instead of using my shoulders as a support, I have, by means of a device of my own, so arranged my crutches that I walk on my hands. This gives me great strength in my arms, and enables me to preserve my erect carriage when walking, with a large expansion of my chest. *I use deep breathing habitually.* I am my own masseur. I rub myself from head to foot

*Gen. Sickles lost his leg at the Battle of Gettysburg.

night and morning with a rough towel. This exercise gives me sound sleep.

"Sincerely yours,

"D. E. SICKLES,

"Major-General, U. S. A., Retired."

William Martin, now (1914) lives in Newton County, Arkansas, and is 119 years old. He was born in Tennessee in 1795. He is poor and extremely temperate, and very religious. Bridget Curran lives (1914) at South Bethlehem, Pa., 107 years old. Her mother died at 102.

Terrentia, the wife of Cicero, lived to be 117 years old. Cicero secured a divorce from her because he wanted to marry a rich young woman. After the divorce Terrentia married Sallust, the historian. He dying, she was married a third time to Cervinus, and yet again, a fourth time, to Vibius Rufus.

Rarely does a spinster live to be a centenarian, but we have an exception in the case of Maria Mallet, a French woman, who died aged 115. She continued the business of dressmaking and millinery to her 110th year. At her death forty-five women who had formerly been her apprentices, went before her body, as pallbearers, to her tomb.

Dwarfs and hunchbacks—as though to avenge the public for their misfortunes—are often exceedingly long lived. An instance is given of Elspeth Watson, who died, aged 115. She was two feet nine inches high, and very bulky.

Longevity does not always confine itself to any particular form or size of body. James McDonald, a giant seven feet six inches high, died in 1760, 117 years old, and Charles Blizzard, the fat man, died in 1765, 107 years old.

While temperance and abstemious habits mark most

centenarians, we are occasionally confronted with the very opposite—as in the case of John Weeks, aged 114, who had a voracious appetite, eating indiscriminately—and only a few hours before his death he ate three pounds of pork, two pounds of bread and drank a pint of wine. He claimed his age was prolonged by marrying a lass of 16 when he was 106, following the practice of King David, who took to himself a Shunammite virgin, when well stricken in years. A hot water bottle possibly would have answered just as well for both—for bodily warmth is what old people most need.

The aged have many interesting stories told of them. Thompson tells us of one John Hatfield, who died in 1770, aged 105. One night while on duty at Windsor Castle, he heard St. Paul's clock, in London, 23 miles distant, strike 13 instead of 12, and not being relieved as he expected, fell asleep. The tardy relief soon arrived and found him in this condition. He was tried by court martial. He denied the charge of sleeping at his post before midnight and in defense related the story of St. Paul's clock, a circumstance never known before. His life was saved.

Another odd instance is related of a young French man of 21 who was sentenced to the galleys of Toulon for his natural life, which means 100 years. Having served his term he was released, aged 122, and returned to his native village, but like Rip Van Winkle, he was a stranger and became so lonesome he returned to the prison at Toulon, where he spent the remainder of his days.

Wm. August Gordon Hake, the oldest barrister in England, died at Brighton July 31, 1914, aged 103.

On January 12, 1912, Micayali Wise, 109 years old, appeared at a newspaper office at Scranton, Pa., and made the editor retract the statement that he was dead.

Under the caption "*To Live Long, Keep Busy*," Elbert Hubbard, a forcible and brilliant writer, in the San Francisco Examiner of January 9, 1912, gives examples of modern longevity: "Dr. Robert Colyer, ex-Senator Davis and John Buckner, are each 87 and still stirring up the animals. Levi P. Morton is 86 and says he doesn't want to see another panic. The death of John Bigelow in his 94th year closes the life of an extraordinary man. Up to the week of his death he took a hearty interest in all political and social happenings. Herbert Spencer once said that the majority of Englishmen, who lived to be over 70, have softening of the brain, and then he explains that the reason they had softening of the brain was because they did not use their brain.

"Litizia Rothschild, the mother of the ten great Rothschilds, lived to be over 100, and at 98 did not hesitate to express her disapprobation of some of the policies followed out in a political way by Nathan, her brilliant son.

"Caroline Herschel, musician, astronomer, student, school teacher, also made the century run.

"Bishop Bowman, of England, is 92, and John Tenniel, the famous cartoonist, is 90, and at work. Sir Charles Tupper is in his 91st year.

"Alfred Russell Wallace is in his 89th year, and not long ago refused to buy a horse that was 12 years old, stating that he wanted a colt so he could break it—and it would last him the rest of his life.

"Undoubtedly the greatest factor in longevity is an active interest in human affairs.

"Life is beautiful and for all we know death is just as good, and death, science shows, is in itself a form of life."

CHAPTER III.

Factors That Make for Longevity or How to Attain Long Life—Food—Climate—Temperament—Sea Level—Religion—Amiability—Simple Life—Sour Milk—Heredity—Every Man Can Fix His Longevity.

Air is the most important factor in all animal economy—without it, if only for a few moments, all life will perish—or if out of the normal proportion, oxygen 21 and nitrogen 79, life will be shortened. We note the effects of pure air in length of man's life in frigid and tropical countries. In Alaska the winters are so severe that men are kept housed the greater part of the year, breathing, of course, foul air, resulting in a short life. In tropical or semi-tropical countries men live in the open the year round and long life results here just as certainly.

Tropical climate or a warm temperate or semi-tropical climate such as we have in California is a potential factor in long life. Climate, however, must be supplemented with healthy ancestry, wholesome food, pure water and hygienic observances, and then you have ideal conditions for longevity.

Climate has a relative bearing on meat eating. In cold countries meat furnishes the carbon for the fuel to provide animal heat, while this is necessary the meat or climate singly or conjointly shortens life. Students of longevity, Hufeland, the eminent Prussian authority, among the number, rightly contend that a warm equable



MRS. CAROLINE SEVERANCE, 95—FOUNDER
OF THE WOMEN'S CLUB OF AMERICA



ELECTA KENNEDY, 106

sea-level climate, tempered by mountain breezes, is the climate most favorable to long life. California climate meets these requirements and the strongest argument we can advance to prove our contention is that in California we have the longest lived trees, Sequoia Gigantea 8,000 years old, and the longest lived Indians, Gabriel 150 and a Tejon 180, and more centenarians among the whites than can be found elsewhere.

Dr. P. C. Remondine, writing most beautifully and forcibly of California climate, says: "In the bright sunshine, steady breezes from off the wide ocean, highly electrical and ozonized atmosphere of California, neither the bacillus of phthisis, typhoid fever nor any other disease germs can long survive in the face of these antagonistic and ever-present elements destructive to bacillary existence. The elsewhere confident and triumphant marauding and murderous bacillus here finds its Waterloo, and the poor victim, a prey to its ravages in reaching California snaps his fingers at that evil spirit of modern disease.

"For he has reached a sanctuary which like unto the threshold of the ancient medieval sanctuaries, no pursuing enemy might cross.

"The festive microbe, the insinuating wily bacillus, and the ubiquitous disease germ find in the chemical constituents of California atmosphere a limit to their empire and existence.

"The great abundance of food in all seasons where man is effectually emancipated from the perpetual struggle so forcibly noticeable in the East, that of trying to keep warm for one half of the year and in vainly endeavoring to keep cool during the remainder, attempts, attended with loss of money and health.

"What the population of California is today should

not be taken as a criterion of what the climate can accomplish. It may take a generation or more to straighten out the shrunken livers in the one or to condense that of another, and bring back a demoralized spleen to a sense of its backsliding, after a sojourn in the Eden of Indiana or Kansas. It may take a generation to eradicate the rheumatic or gouty blood bred in localities where extreme cold drives one into gross feeding and illy ventilated apartments, but in the end California climate can be trusted for successful attempts to accomplish the economy so that it will meander along on a half remaining kidney or an excuse for a relic of a former lung."

A change to a superior climate will, as we know, rejuvenate the old and worn out. A case is reported on good authority of an old Irishwoman of eighty, who left Ireland and settled in North Carolina, a state renowned for its healthfulness, and lived there until she had reached 111, and being very feeble, was taken to Murphysboro, Tennessee, where she again took on a new lease of life, and died there in 1835 aged 131.

Hundreds, yes thousands, of living men and women of 80, 90 and 100 years of age in California, who came here physical wrecks from other states and countries, owe their rehabilitation and long life to the more favorable climatic conditions they experienced on coming to the Golden State. Climate has a bearing on longevity, if favorable and a twelve-month climate, as it is here, it is a potential and unquestioned factor. Growth is so vigorous and prolific that the care and burden of providing for a household is here reduced to a minimum, and its concomitant worry which kills is not here reckoned in the category of life's trials.

East, they produce in the summer the food for the winter, and emerge in the spring from their hibernation

to follow the same hopeless routine again and generally with no cumulative results. Here in California, with its winterless year, existence is a "thing of beauty and a joy forever." The seasons come and go, bringing an endless harvest, and life is shorn of its anxieties and if hygiene and dietetics are observed longevity is the rule. A cold, wet, changeable climate is productive of pneumonia and consumption, and tuberculosis destroys four hundred daily in the United States, 146,000 yearly, and is easily preventable by pure air and readily cured in its incipency by sunshine and outdoor life in our tropical California.

The invigorating effects of our climate on man and horse is charmingly told by Jeremiah Lynch. Speaking of the early Californians in "*A Senator of the Fifties*" riding like centaurs on horses that were more enduring than the purest Arab they would sup a hundred miles from where they breakfasted."

Bayard Taylor, visiting San Francisco as far back as 1860, says "the children of California are certainly a great improvement on those born in the East. Nowhere can more rosy specimens of health and beauty be found. Strong limbed, red-blooded, graceful and as full of animal life as young fawns, they bid fair to develop into perfect types of manhood and womanhood."

Wars, such as are now (1914) waging in Europe, killing off the most vigorous of our race and leaving the weaklings to propagate our species, is our greatest foe to longevity, and until universal peace reigns and reigns permanently, we cannot hope for improvement along this line.

Some years ago Dr. David Starr Jordan, who more than any other writer has written along these lines, wrote a biological treatise, "The Blood of the Nations,"

convincingly setting forth with unanswerable argument that wars make for race degeneracy. Undoubtedly through the centuries of the past, if peace had prevailed instead of war, 125 to 150 years would have been the normal limit of human life—and hand in hand with longevity, civilization would have advanced in corresponding ratio.

The most important factors that make for long life are air, water and food. Air includes the climate, water purity, and food wholesomeness.

Air is generally pure outside of houses, only in closed apartments does it become dangerous. Pure water we can occasionally get but wholesome food is as rare as diamonds and more valuable. Look into our bakery shop windows; what a conglomeration of poisons from the deadly doughnut to the deadlier angel food.

Cooks kill more than the cannon. War only comes two or three times in a century to devastate, while the cook is ever with us—three times a day and often at midnight at post-theatrical dinners.

The delicatessen store is a greater dispenser of poisonous foods than even the bakery. We casually took an inventory of one recently in this city, and found out of thirty articles of food on sale 27 were either unwholesome, indigestible or poisonous, and only three that could be classed as wholesome. We arrest the milkman if his milk is diluted with water and permit the delicatessen store to impair the health of a community by the promiscuous selling of foods if not directly poisonous, are indigestible and wholly unfit for consumption.

Indigestion not only shortens life, but produces an unamiable and irascible disposition, and the primary cause of many divorces; and if Judge Graham of our

city, the good angel in pacifying disgruntled couples, would turn his attention to wholesome cookery as a requisite for each married woman, he would find it a powerful agent in preventing divorces, and in re-uniting belligerent contestants.

Is it any wonder we are called a nation of dyspeptics?

We license a druggist, after a four years' course, to compound medicines, while we allow any ignorant dirty fellow wholly destitute of dietetic knowledge to cook our daily food for us.

Every chef should be licensed after a thorough course in a wholesome cookery school, under the superintendence of medical men, and any man or woman who enters a kitchen to prepare food for people to eat, unlicensed, should be promptly arrested. Every girl should be taught it in our public and private schools, for the preparation of healthful food is paramount to all other studies in the curriculum. We have cooking schools, but usually they cater more to the palate than to the health.

An unlicensed pharmacist cannot dispense paregoric without incurring a jail sentence, while any unclean male or female ignoramus can deal out his deadly compounds of indigestible cookery, producing gastritis, enteritis and ptomaine poisoning to the unlucky wight who enters his dining room, and not a word of protest from mayor or board of health. Our pure food inspectors often are as ignorant as the cooks as to healthful food. Instead of a "political pull" these positions should be earned by hygienic and dietetic knowledge, and with the aid of scientific cookery, health, happiness and longevity would be promoted.

For prevention of cholera in hogs \$1,000,000 is spent yearly—for protection of babies who die annually of

sheer neglect only \$25,000 is spent. Hogs are more highly prized than babies.

Food has a bearing on longevity, though not so much as air and climate. Arnold Lorand, one of Austria's most distinguished physicians, in his recent work, says of meat as a diet: "Many of the organs of the body are affected deleteriously by a meat diet. It aggravates 'Graves' disease,' gout, diabetes and injures the liver, kidneys and pancreas. Children and persons above 70 especially should not eat meat. Fish is preferable. When patients are taken off meat and put on milk, eggs and vegetables, they improve soon and even look younger. Old age can be deferred by a diet of milk and vegetables."

Dr. M. L. Holbrook says, in his work "*Eating for Strength*": After fifty, gradually lessen the amount of food consumed. Excessive eating in old age keeps up too great a pressure on the enfeebled heart, and weakened vessels and renders them liable to break, causing apoplexy." The safest and truest test of man's proper food is the work it does in producing long life. If little or no meat but milk and vegetables, with temperate habits and a warm, dry, semi-tropical climate produce a long, healthy and happy life, then the question of man's proper food and climate has been successfully solved.

Upon the other hand, where we find people eating large quantities of meat and washing it down with alcoholic beverages and living in a cold changeable climate, it does not take a Solomon to forecaste for them a short and miserable life. Food is a factor in longevity not to be despised. Children, if not properly fed, fade away and die, and the adult must have wholesome food or the life is shortened.

We have said that the meat-eating Indians of the North and East live little beyond 60, while the nut, acorn

and maize-eating Indian of tropical America lives from 100 to 175, and in Northern Europe, where the climate is severe and the diet chiefly meat, life is short, but in Southern Europe, where outdoor life is a pleasure, and milk, eggs and vegetables their stable food, people live to a great age. For the reasons mentioned, we had only 23 centenarians, as we have stated, in Norway in 1910, while in Spain we had 410. This disparity can only be attributed to climate, the warm having the preponderance of long lived people over the cold country.

Metchnikoff, in his work on the Prolongation of Life says: "It has been noticed that most centenarians have been people who were poor or in humble circumstances, and whose life has been extremely simple. There is an instance of a rich centenarian, as Sir Moses Montefiore, who died in Paris at the age of 101, but such are extremely rare cases. Poverty generally brings with it sobriety and most centenarians have led an extremely sober life."

Mons Chemien tells us "that in Servia, Bulgaria and Roumania there were 5,545 centenarians living there in 1896, and it is undoubtedly true that the pure air of the Balkans and pastoral and agricultural life of the natives produced this great number of old people.

While climate has much to do with longevity, food is equally an important factor. No purer air is found anywhere than in the mountains of Switzerland, yet it is noted for its absence of centenarians. Food consisting of milk, fruit and vegetables and a mild sea-level climate seems to favor longevity."

There is an impression broadcast in the world, probably for commercial purposes, that you must labor every day to enjoy good health and long life.

It is farthest from the fact. Old Gabriel, who lived at Monterey, never did a hard day's work in his life, yet he lived to be 152 years old. All the long-lived Indians, now living in Southern California, ranging in ages from 100 to 140, do no work.

Lazy people live longest, all things being equal.

But some one says in defense of a meat diet, the teeth of man proves him carnivorous. The opposite is true. The gorilla has identically the same teeth, yet he is herbivorous, and according to his weight is the most powerful animal in the world. No carnivorous animal of equal pounds can compare to him in strength. He has been known to wrench a limb from a tree and crush the skull of a lion.

The tongue is further proof that we are vegetarians—it being smooth, while the tongue of the carnivora is armed with small sharp projections that curve backward. The tiger's tongue is so rough it will draw blood if you allow him to lick your hand.

Dr. Woods Hutchinson, in his humorous way, tells us "It has been long known to sanitarians that the highest average of longevity is not among farmers but among professional and business men. The finest physical specimens of humanity that are to be found in America are not among farmers or day laborers, but among the children of those classes who have been brought up in towns or cities. Civilized man sleeps in well-ventilated bedrooms, the air in the country is always good, for the farmer keeps all the bad air shut up in his bedrooms. Their food too often consists of that which they cannot sell. It takes them all winter to recover from the work debauch of each summer. The city man, with his well-ventilated house, good supply of water, perfect drainage

and good food supply is under more favorable conditions physically."

The pure air of an ideal climate must be utilized to get results. How pitiable it is as we walk early in the morning down one of our streets in San Francisco as the ozonized air comes sweeping down our thoroughfare from across 10,000 miles of salt water, and deeply inhaling this intoxicating elixir of life, to look at the hermetically sealed windows of our hotels and private residences and think of the contrast of the foul air within their bed chambers to the unadulterated God-given air without. Our churches and schools and theaters often found reeking with filthy air seem a shocking travesty on our civilization. We journey to the country every summer for pure air, yet no purer air exists on earth than in San Francisco, and we can get it free by opening our windows and inhaling it. We seek each summer Paso Robles, Byron Springs or Carlsbad for a vacation jaunt, but San Francisco surpasses these and all other summer resorts in America or Europe for its invigorating air, its delightful sea breezes producing health and a diversion—a necessary concomitant—in the multiplicity of its cosmopolitan amusements. We have been in the great cities of Asia, Africa, Europe and America, and you can enjoy life more days in the year in San Francisco than elsewhere.

Deep breathing is another factor that promotes longevity. It is essentially so, for the oxygen of the air burns up the poisonous and effete material in our systems and consequently the more oxygen we breathe the more thoroughly is this renovation accomplished.

General Drayson in "*Nineteenth Century*" says: "Breathing will cure many diseases. The more rapidly we breathe the greater amount of oxygen is taken into

the system, and the greater quantity of effete matter is consumed. Insomnia and many cases of pain, headache and even toothache, can be realieved by breathing rapidly for a time and none but pure air, day or night, should be inhaled.

“Nervousness and insomnia can be cured by breathing rapidly for several minutes; even coughs, colds and throat troubles can be in a measure mastered in the same way.”

Pure water and pure milk are the only two natural and healthful drinks; all others are artificial and mainly deleterious. Water is nature’s solvent, it washes out the sewage of men as well as of cities, and to both it is equally important. It should never be drunk with meals, always before or after. In the morning a glass of water drunk with a small quantity of salt will both wash out the stomach and disinfect it and prepare it for the reception of food. Several glasses of water drunk daily will cure constipation and constipation is a foe to health and longevity. Ice water should never be drunk; it chills the stomach and heart and always does injury, oftentimes a fatal one.

Adelaide Neilson, England’s most beautiful and most renowned actress, was in her prime killed by a glass of iced milk in 1880 in a Parisian cafe. Pure milk is both the most perfect drink and the most perfect food. Pure milk can only be obtained from healthy kine. It is said that one-fourth of our dairy cows have tuberculosis, and it is the imperative duty of our milk inspectors to carefully and diligently safeguard this important avenue of food supply. Goat’s milk is preferable to cow’s milk for the reason that the goat is immune from tuberculosis and kindred cattle diseases. It is undoubtedly a better infantile food. We have often found in our practice

children dying from inanition, from not being able to digest the mother's or cow's milk—or any of the artificial foods—but would readily and rapidly recuperate if goat's milk were used.

Sour milk or buttermilk has a well-earned reputation in overcoming intestinal putrefaction and destroying the baccilli of old age.

London M. Douglas, F. R. S. E., in his interesting and instructive volume "*Bacilus of Long Life*," tells of Eastern, Southern Europe, out of its population of three million were found 3,000 centenarians. The secret of this long life was soured milk, on which these people so largely subsist. Dr. Douglas states: "It is quite common to find among the peasants who live to such a large extent upon soured milk, individuals ranging from 110 to 120 years of age."

Poverty and its accompaniment anemia, often the result of the alcohol habit, shortens life. John Shedd, the Chicago millionaire, who rose from poverty, recently said: "There would be no need of old age pensions if workingmen would save their money instead of spending it for whiskey and beer."

Can we doubt it when we find in the fiscal year ending June, 1913, the people of the United States spent \$2,000,000,000 (two billion dollars) for intoxicating drinks, and \$350,000,000 (350 million dollars) for tobacco, both deadly poisons.

There are 300,000 insane in the United States, and costing us \$110,000,000 annually, and one-third of them (100,000) are made insane through alcohol. In China the use of opium is prohibited by the State; in France absinthe because both is known to be detrimental to the physical health of its people. So in the United States alcohol—high spirits, brandy and whiskey—should be

legally barred except for medicinal purposes, being poisons, and their use as a beverage a menace to the nation, but pure beer and wine should be classed with other foods, being non-injurious, if used temperately.

Alcoholic liquors, as we have hitherto computed, directly and indirectly destroy 200,000 annually in the United States and cannot therefore be said to promote longevity.

The United States Mortality Statistics on Alcoholism have little or no value however, as death from alcoholism is considered a disgrace and not one case in a hundred is reported correctly by the attending physician.

In 1908 the United States Mortality Statistics gave only 2,348 deaths from alcohol and 5,280 from appendicitis, as a total that year for the United States.

Every intelligent medical man knows that we have that many deaths from alcoholism and more in each State. Appendicitis kills nearly three times as many people in the United States annually as alcohol, according to these statistics, which is erroneous and misleading.

Phelps, in his "Mortality of Alcohol," places 60,000 as the death list in the United States, which we think is undoubtedly much under-estimated. Niesson examined 6,111 persons from 16 to 90 years of age who were taking alcohol and found the ratio of mortality among them three times greater than for the whole population of England.

Lorand tells that Sir Iseanbaro Owen, after an investigation of 4,287 persons, that he found the average duration of life was greatest among the total abstainers, or very moderate drinkers, and that but few addicted to much alcohol were among the long lived, which proves conclusively that alcohol is very deleterious to the organism.

Mechnikoff says: "Humanity would make great strides toward longevity could it put an end to syphilis, which is the cause of one-fifth the cases of arterio sclerosis.

"The suppression of alcoholism, the second great factor in the degeneration of the arteries, will produce a still more marked increase in the length of life."

Dr. Henry Smith Williams says: "Tea, coffee and alcohol should be absolutely interdicted in the growing child."

The superintendent of one of our largest insane asylums tells us that 75 per cent of the inmates were alcoholics and regarding longevity were very short lived.

A prominent police court judge of this city, speaking to us along the same lines, says: "*If there were no alcoholics, crime would be diminished one-half.*"

It is a well-known fact to all physicians that alcoholics succumb more readily to pneumonia and erysipelas, and that they beget neurotic and short lived children. Alcoholics propagate drunkards, insane and criminals and should be prohibited by law from marriage.

Dr. Archibald tells us in his book on alcohol "that the use of alcohol tends to make a sober nation by the elimination of the drunkard by killing him off, and the survival of the fittest transmit their moderate tendencies to their children.

"Alcohol is rightly regarded as terribly injurious to the individual and it is a comfort to believe that it makes for the improvement of the race as a whole."

Doctor David Starr Jordan, of Stanford University, advances the same theory and, though seemingly harsh, it is undoubtedly the correct one. Col. L. M. Maus, U. S. A. Surgeon, says: "Alcohol lessens the ability

and resistance of army men in every line, and should be abolished as medicine or regalement from the army and navy."

The Spartans, Lycurgus tells us, practiced very much the same theory in their treatment of their newly born infants by immersing them in cold water, thereby sifting out and destroying the feeble. Alcohol, the greatest destroyer of the human race known to the world, more than war, besides decimating our kind, is in addition an expensive habit—to the individual and nation.

The U. S. Statistics tell us that the liquor bill of our people is \$3,000,000,000 (3 billion of dollars) annually. This we cannot doubt when we learn that 70 million gallons of spirituous liquors are drunk yearly in the United States. Webb's Statistics for 1911.)

While we have known a few who drank to excess, who were long lived, they would unquestionably have lived longer had they been temperate. Metchnikoff remarks that sobriety is certainly favorable to long life, but we have a few instances of centenarians who have drank freely.

M. Chemin gives instances of a few long lived drunkards—one Dr. Politiman, a celebrated French surgeon, who lived from 1685 to 1825, 140 years, was in the habit from his 25th year onward of getting drunk every night, after having attended to his practice all day. The drink was not whiskey, but wine, which has no ill effect; in fact, the tart wine, as claret, acts favorably on the liver and used temperately would promote longevity.

Gascoyne, a butcher of Trie, died in 1767 at the age of 120, and got drunk regularly twice a week (probably on wine).

Another example he relates of the wealthy Irish landlord Brawn, who died at 120, and had a statement

inscribed on his tomb giving his reasons for living so long: "*I have been drunk all of my life and in that condition was so terrible that even Death was afraid of me.*"

But these are the exceptions. Fully 95 per cent of centenarians have lived sober, temperate and abstemious lives, living chiefly on milk, eggs, cheese, fruits and vegetables, as Thos. Parr, 152 years, and Pierre Zortay, living to within 15 years of 200.

"*In Human Body and Health*" "the use of beer," Dawson tells us, "is the chief cause of fatty degeneration of the heart, and one in sixteen patients in the Munich, Germany, hospital, in which city beer drinking is common, die from enlargement of the heart due to beer drinking."

Millions are spent annually in our several states for sanitary purposes, but the one chief thing they neglect is to educate the community on ventilation of houses, avoidance of indigestible food, gluttony and drinking alcoholic liquors. Dietetics has become an exact science since the U. S. has established its Pure Food Bureau, and we can intelligently select food that will prolong life. We have learned that too much meat (a food too often diseased), pie, cakes, puddings, accompanied by alcoholic liquors neither promote health nor longevity. Food, to accomplish the best results in nourishing the body without clogging it must be thoroughly digested.

Mastication is most important as the first step in digestion, and being voluntary, is under our control. Thorough mastication of food, a subject very carefully treated by Horace Fletcher in "*The A, B, Z of our Nutrition*," i. e., chewed continually till it becomes a liquid pulp, is advised, and then when injected, there will be little danger of auto-infection when it reaches the intestinal tract. The bacteria from a meat diet is more

dangerous than from a vegetable diet—the aged being much more liable to intestinal putrefaction than the young because of their weak digestion, and hence meat should be discarded by the old.

The Pure Food Bureau has established the fact that too exclusive a diet of corn produces pellagra and that excessive use of beer produces Bright's disease. Foods containing a high percentage of protein, as lean meat, was once thought a necessary diet for the working man, but it has been proven that food such as rice that contain a low percentage of protein is more strength-giving and fatigue-resisting, and men who subsist on rice, beans and other kindred foods possess far greater powers of endurance. The Russo-Japanese war verifies this statement.

For the aged whose digestive glands are atrophied, *raw milk, whipped eggs, rice, sago, tapioca, barley and soft boiled eggs are the most digestible foods.*

The key-note in eating is *moderation in all periods of life.*

The Record of Harvard University State.

"For fifty years not one tobacco user has stood at the head of his class, although 83 per cent of Harvard students use the weed."

In 1913, 14,530,486,200 (more than fourteen billions) cigarettes were smoked in the United States, producing an incomputable brain and heart injury to the nation.

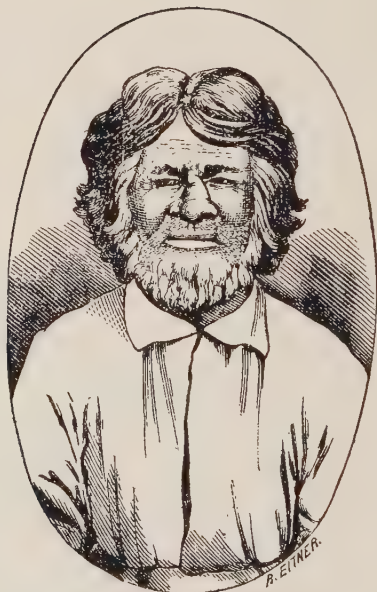
Former Servant of Great Irish Liberator Passes Away.

Potsdam, N. Y., Jan. 17.—Mrs. Nora Sullivan died here yesterday, aged 110. She was born in County Kerry, Ireland, and was employed in the household of Daniel O'Connell, the Irish liberator, before coming to America seventy-five years ago.

She had used tobacco for the last eighty years.



HEY LAWSON HILL, 105



BRUNO, 110 YEARS OLD

TANNER AT 85, SAYS 'EAT NUTS AND FRUIT.

Los Angeles, February 7.—Eighty-five years old today, Dr. Henry S. Tanner, who had earned world-wide fame by equaling the exploit of Elijah in fasting forty days and forty nights, declares that simple living on nuts and fruits is the only solution of the high cost of living.

Tobacco is another poison that men use, and though not so destructive to the human family as alcohol, yet it is not by any means conducive to long life. In the United States 4 billion cigars and 16 billion cigarettes are smoked annually, costing 200 million dollars more than for bread.

Riddell tells us in his work "*Heredity*" that 60,000 persons die annually in the United States from diseases caused directly by the use of tobacco. Cigarettes have a stunting effect on the growing youth. In nicotine poisoning too, we have exceptions for some men seem to use tobacco with impunity. Mr. Ross, who gained a prize for longevity in 1896 at the age of 102, was an inveterate smoker and in 1897 a widow named Lauzenne died at La Carriere, aged 104, and smoked a pipe all her life.

The question presents itself, if these people lived to such a great age handicapped by nicotine poisoning, would they not have lived many years longer had they not been subject to this virulence?

Tea is an astringent and the tannin it contains induces constipation and its sequel, nervousness, which later is directly attributable to auto-infection from the retention of the feces, besides giving a tanned or leathery appearance to the skin of the habitual user.

Coffee is not so pernicious, even some medical writers claiming it is a promoter of intellect, reason and imag-

ination—though it is patent to most physicans that an excessive use of it oftentimes produces functional heart trouble. M. Chemin tells us of Elizabeth Durieux, a native of Savoy, who lived to 114, her chief food coffee, drinking as much as 40 small cups daily. Metchnikoff concludes, after an exhaustive study, "that duration of life may be prolonged by a measure directed against intestinal putrefaction. The process of putrefaction takes place in a mass of badly digested food and may be combated by careful dieting and avoidance of rich food of all kinds *particularly of flesh and alcohol*. A diet consisting largely of sour milk is most conducive of longevity. In the rural districts of Ireland the use of sour milk is common and centenarians are abundant."

Chemin tells us of "26 centenarians who lived a frugal life and never drank wine or ate meat but who lived on bread, milk and vegetables.

"Marie Pryon died in France in 1838, 158 years of age, who lived the last ten years of her life exclusively on cheese and goat's milk. Ambroise Janette died in 1751, aged 111 years, ate nothing but unleavened bread and drank nothing but skimmed milk. Nicolai Marc, died 110 years of age, lived only on bread and milk. There lives—1890—in the village of Sba, Theresa Abalsa, whose age is 180. She is quite active and walks, and her chief diet is barley bread and buttermilk." Metchnikoff relates visiting in 1905 Madame Robinson, a Parisian woman of 105, and she told him that her relatives died young and that her great age had been acquired by leading an extremely regular life. She seldom took meat, but her diet chiefly consisted of eggs, fish, farinaceous foods, vegetables and fruit.

On November 11, 1911, two brothers who had been sent out by Harvard University to walk from Boston to

San Francisco to test the relative value of a meat and vegetable diet, arrived in Denver. After the 2,000 mile walk the meat abstainer had gained 15 pounds and was in much better condition of the two.

Professor Irving Fisher, of Yale University, Government Expert on Food Values, recently sent us literature on this subject. From experiments he conducted among the students, dividing them as meat eaters and meat abstainers, (the latter allowed milk and eggs) he found that they were equal in feats of strength but in endurance the meat abstainers out-did *the meat eaters two to one*. Mankind is often provokingly perverse regarding his own welfare.

We think more of our horse and feed him with more judgment and sense than we do ourselves. Suppose we had fed Flying Childers, Salvator or Nancy Hanks with as little care as we feed ourselves, would they have made historic names? In 1910 the writer saw Dan Patch, the world famous pacer, 1.56. He was carefully bathed and groomed daily till his skin shone like satin. No human being was ever so well cared for. A screen was about his stall, preventing the flies from annoying him or carrying infection to his food, was fed with a measure of the choicest oats and hay weighed to the ounce; and pure water at stated intervals, and with his breeding care and training, he was king among horses and champions of the world. Had we bred these horses as carelessly as we breed men, their names and deeds would never have been worthy enough for record.

Among men it is only fortunate haphazard alliance that by chance occurs, not by any premeditation or care upon our part, that a few intellectual men and women are occasionally bred, whereas if the same care were used in breeding men as in the propagation of our domestic

animals, geniuses would be the rule and not the exception. Eugenics should be formulated into legal enactments of the state and made as other laws, compulsory requirements. Then would we no longer need almshouses, for all could take care of themselves—nor penitentiaries, for there would be no criminals nor perverts,—nor hospitals, for none would be sick.

It is pitiful to look at mankind as it exists—diseased by the indigestible food it consumes; nerves disordered by nicotine poisoning, heart fluttering, brain reeling with alcohol—and the lame, the halt and the blind, the drunkard, the glutton, the criminal, the deformed-incongruously marrying and breeding their kind.

There are (1915) 20 million school children in the United States—and according to statistics (1912)—15 millions of them are physically defective. Fresh air, proper feeding, proper mating, temperate exercise of body and mind, with grooming and physical care, would lead to a healthier future generation—that would tend to long life.

Healthful food receives only minor consideration.

A San Francisco paper recently gives this menu offered by 300 society women of the city at a Charity Ball. "*Ices, Salads, Cakes.*" "EVERY ARTICLE UNWHOLESOME AND INDIGESTIBLE."

In the United States as elsewhere, the death rate is shown to be twice as high among the unmarried as among the married of the same age. A single life is usually a discontented and unsettled life. Marriage by selection of the fittest is a logical factor also in longevity. Some writer says a woman possessing beauty, health, character, amiability and a cultivated mind is more apt to marry and thereby bear children than a woman of less favored qualities; so such a woman will

select a prepossessing robust attractive and virile man, rather than a weakling and the alliance gives to us healthy vigorous children, born with the inherent qualities of long life.

Long life shows great virility, and we know of no instance of great age where amative passion did not strongly exist. People of an amorous nature usually marry and the trio—passion, marriage and longevity—usually go hand in hand. There is hardly an instance recorded of a bachelor or spinster reaching the age of 100. Dr. Curadze, a statistical expert of Berlin, says: "If men want to enjoy long life, they should marry; if women want to grow to a good old age, they should remain spinsters."

Capt. Diamond, of San Francisco, is an exception. He is a bachelor and 118 years old, and Marie Mallet, a French spinster, whom we have previously mentioned, who in the last century in Paris died at the age of 115—but these are noteworthy exceptions. Margaret McDowal of Scotland probably distances the female record in marrying. She died in 1768, aged 106, and was married 13 times and outlived all her husbands.

James Gay, of Bordeaux, France, died in 1772 at the age of 101, was married 16 times and died childless.

Marriages should be regulated by the State for it is the duty of the commonwealth to safeguard its citizens. Proper marriage would insure a healthy longevity—a capable, law-abiding, enterprising and superior people.

We guard the State against diseased and immoral immigrants yet with our lax marital laws we breed criminals by the tens of thousands yearly. Take the two families the Jukes and the tribe of Ishmael; from the one man who founded the Juke family came 1,200 descendants in 75 years. Of these 310 were professional paupers

who spent 2,300 years in poor-houses, 50 were prostitutes, 7 murderers, 60 thieves and 130 common criminals. The tribe of Ishmael numbered 1,692 individuals—in six generations producing 121 known prostitutes and hundreds of thieves. Yet the uninformed think there is nothing in heredity. Ada Take, born in 1741, was a drunkard. She had 709 descendants among whom were 100 illegitimates, 189 prostitutes, 142 beggars, 46 in the workhouse, 76 criminals and the remainder more or less drunkards. They cost the State \$1,200,000. This social degradation could have been prevented if the State had prohibited the marriages and had sterilized the heads of these families.

Contrast the Edwards family with the Juke and Ishmael families. Of the 1,900 descendants of Jonathan Edwards, 1,394 have been identified. 295 were college graduates, 13 were college presidents, 65 were college professors, 60 were physicians, 100 were clergymen of distinction, 75 were officers in army and navy, 60 were prominent authors, 100 were lawyers, 30 were judges, 80 held public offices, 3 were United States Senators, 1 was vice-president of the United States and we have an unanswerable argument in favor of heredity and eugenics.

To realize the Utopia of our dream, a marriage law is imperative. Marriage should only be permitted by law to take place between a man and woman mentally, morally, financially and physically sound. The offspring from such a union would be endowed with a vitality and poise that would give them a vantage in the battle of life. Marriage promotes longevity for the simple reason that it compels us to live a more regular life and for this reason the married live longer than the single. In France, out of 1,000 unmarried men between 20 and 30 years of age 11.3 died annually, while of the married

of the same age only 6.5 died. Limiting marriage would prohibit the propagation of diseased and undesirable children. This would be a long step forward in producing ideal men and women, fitted for the highest usefulness and a life reaching out to its full normal limit.

We should exercise at least the same good sense and judgment in the human family that we use on our stock farms where we permit only the choicest of their kind to enter the breeding lists.

That means,—as in animals who have in all the centuries of the past kept their primeval standard,—the survival of the fittest, and *the fittest is always the best*.

Dr. Woods Hutchinson proves that 90 per cent of our prostitutes come down from the intermarriage of the ignorant, the degenerate, the idle, the mercenary. Luther Burbank tells us in his charming little book "*The Training of the Human Plant*"—"It would be best if possible to prohibit in every State in the Union, the marriage of the physically and mentally and morally unfit. What then shall we say of two people of absolutely defined physical impairment who are allowed to marry and rear children? It is a crime against the State and every individual in the State." Every State and country for the protection of its commonwealth should enact a Marriage Law, allowing no license to be issued except to the applicant who could successfully meet a required standpoint.

Many thoughtless writers ridicule Eugenics —or the mating of high standard men and women—as a fad. A writer who would decry high breeding in animals or in plant life would be regarded by the scientific and well informed as too ignorant to be taken seriously.

If there is any truth that careful breeding on a stock farm makes a superior animal, and if Burbank in plant

selection improves the garden and orchard products, then there is logic and truth in Eugenics.

If man breeding were adopted along the lines of animal breeding, in five generations we would have no insane asylums, no penitentiaries, no deaf, dumb and blind asylums, no alms houses, fewer prostitutes, and a hundred to 125 years would be the average life of man.

Dr. Harvey W. Wiley, the Ex. U. S. Chemist says: "Persons afflicted with incurable diseases or who are imbecile or otherwise grievously diseased, should be prohibited from marrying. Man is entitled to the protection of the State. I therefore urge the establishment of regulations to limit marriages to healthy, normal individuals. While heredity has much to do with great age, it may be promoted by quiet, regular habits, moderation in eating and abstention from the use of stimulants and tobacco."

Longevity, like other qualities of mind and body is, of course, hereditary. Long life has always in evidence a sound physique, equable disposition, both of which is inherited. A writer tells us "Perhaps the most striking instance of hereditary longevity may be found in the case of Thomas Parr, who died in London in 1635, aged 152 years, and was buried in Westminster Abbey. He was a farmer and worked to the age of 130, married his second wife at 122. Thomas Parr had a son who died at 113, 2 grandsons who lived to be 124 and 127 respectively."

Captain G. E. D. Diamond, 1796-1915, now living in San Francisco, aged 119, had a father, Joseph Diamond, who died in Huntsville, Ala. in 1866, aged 104.

The writer had an uncle, Jacob Daubenspeck, who died in Rushville, Indiana 1894, aged 100, and another

uncle, Jacob Smelsor, who died in Richmond, Indiana, aged 104, and an aunt who died at 106.

Dr. Benjamin Rush, an eminent observer, said he had never met a person over eighty whose ancestors were not long lived.

Mr. William C. Reed, of Bakersfield, Calif., 101 years old, writes us that his father lived to be 105 and his mother 91. In 1886 Mon. and Mms. Ballot, aged respectively 105 years and 4 months and 105 years and 1 month, died within two days of each other, at Vangerard, 54 Rue Cambronne. It is noticeable that when two very old people who have lived together many years and one of them dies the other often follows soon after. Being very old and feeble, they cannot survive the shock of their loss. The climate, food and daily habits that bring long life to one of a married couple will logically act similarly on the other. Lajoncourt tells us of a South American of 143 years and whose wife lived to 117. Mrs. Kiethe, of Gloucester, England, lived 133 years and had three daughters who lived 111, 110 and 109 respectively.

Dr. Abernathy says "In your food, restrict yourself as to quantity rather than quality, eat slowly and drink at close of meal, give attention to diet, air, exercise, mental tranquillity and not medicine—these contribute to the preservation of health and prolongation of life." Dr. Abernathy died at 67. He could preach like most of us better than he could practice. Francis Hongo, a native of Smyrna and Venetian Consul, died in 1702, aged 113. He lived as he grew old, chiefly on broths and drank no wine. He was never sick and took a daily walk of eight miles. He was married five times and had 49 children. When about 100 his white hair fell out and

it was succeeded by a crop of its original color, and at 112 he cut two teeth.

Thompson tells of John Tice, who died in 1774, aged 125 years. At 80 he fell from a tree and broke both legs and at 100 he fell into some live coals and was badly burned but neither seemed to check his longevity. Both Hongo and Tice lived very temperate lives.

James Cain, a Chicago pioneer, who died in that city January 29, 1912, aged 102, often told his friends that a diet of rye bread, supplemented with a little other food was his secret of longevity. Many of the old philosophers attained great age, among them Pythagoras and Democritus, who attributed their long lives to "oil without any honey within."

Chauncey Depew, statesman and wit, celebrating his eightieth natal anniversary in New York on May 22, 1914, gives tersely his secret of longevity: "To laugh with our friends, to contribute to their cheerfulness, have done more than all else to keep me healthy and happy."

Mr. William Kinnear tells us in the "*North American*" that it is possible to live 200 years if the following diet is followed from youth up: "*To avoid all foods which are rich in the earthly salts, using much fruit, especially juicy, uncooked apples and to take daily two or three tumblers of distilled water with ten or fifteen drops of diluted phosphoric acid in each glass. As age advances the accumulations become greater than the power of elimination and the functions of the body are blocked and death is the result.*"

Dr. Yorke Davis, in the "*Popular Science Monthly*," says: "The length of man's life depends on the way he lives. Plenty of good food, air and exercise in early life are factors which conduce to old age. Corpulency

is one of the most fatal barriers to long life and can be easily obviated by avoiding the foods that make fat."

Dr. Webber, a London physician 90 years of age in the "*British Medical Journal*" of 1914 speaks advisedly of long life as follows: "Be moderate in food and drink and all physical pleasures, go to bed early, rise early, take bath daily, rub body well, avoid alcohol, narcotics and soothing drugs."

Madame Nauserine, who died on March 12th in 1756, 135 years of age, attributed her long life to "Extreme sobriety, no worry, body and mind quite calm."

Metchnikoff says "Hygienic measures have been most successful in prolonging life and in lessening the ills of old age."

Ninon de L'Enclos, the most beautiful Parisienne of the 17th century, retaining her phenomenal beauty of person and mind to her 90th year,—for 70 years holding undisputed sway over the greatest minds of France from King to savants, attributes her long life to "Amiability of mind and hygienic care of the body"—expiring on the 17th day of October, 1706, as one falls asleep.

Whitelaw Reid, minister to England, writes to us from the following data regarding the number of centenarians in Great Britain. "England and Wales 146, Scotland 41, Ireland 497, the Isle of Man and Channel Islands 1." If Ireland had proportionately England's population the Emerald Isle would have 3,996 centenarians to England's 146. Scotland has approximately the same population as Ireland, yet Ireland has nearly four times the number of people over 100 years of age. Here we have food again playing an important part in longevity. It is Ireland's potatoes, vegetables and milk, pitted against England's roast beef, ale and plum pudding. The former produces pro rata nearly thirty times the number of cen-

tenarians that are found in England. Scotland with its oatmeal and porridge produces four times more centenarians pro rata than England.

The thoughtful and wise can prolong life as a rule to an advanced age. If you are a "Good Fellow," fond of wines and late dinners, quit them like Cornaro, who at 40 was a physical wreck from such dissipation and by subsequent abstemious and temperate life lived to be 100. If you live in a cold and changeable climate, leave it for a balmy, sub-tropical one and your life will be extended.

If you are a glutton, like Vitellius, with every organ worked to its full limit disposing of needlessly unnecessary food, overworking the vital organs, eat a smaller quantity and that of easily digested pabulum, and the joy of living will be your reward.

If you have been a meat eater and have passed fifty—or at any age, leading a sedentary life,—eschew meat for a vegetable diet and you will get rid of intestinal putrefaction that unquestionably shortens life. If you have been addicted to alcohol abstain from it, for it destroys thousands and benefits none. If you have been occupying illy ventilated bedrooms or day rooms and vitiating every organ with carbonic acid gas poison, let in the pure air from the sea, the dale or the mountains, and life will have another meaning for you. If you have been living a sedentary life and riding to and fro from your work, walk if possible, breathe deeply and constipation and indigestion will quickly disappear. If you have been worrying over your affairs, right them if you can, if you cannot, cease from anxiety, for it is futile and worry kills. If you are old and poor, no home, no money, do not think of suicide, the resort of cowards, but go to that home provided by the State and many happy years may yet be in store for you. The State should however, pre-

vent this humiliation of its poor citizens. Each State owes it to its own self respect to pension its poor over 65, as Germany, France, England, New Zealand and Belgium and save them from the disgrace of the almshouse.

"Frederick Moore, in the *National Geographic Magazine*, of October 1913, says of the Romanians, the longest lived country of Europe, "that their chief diet is maize porridge and vegetables, rarely including meat."

The Hungarian records of the 18th Century tell us of goat herders whose diet was chiefly goat's milk and cheese dying at ages ranging from 147 to 172 years. Surgeon General Wm. Hammond of the U. S. Army, a few years ago thought he had found the elixir of life in goat serum which he used with remarkable success in the rejuvenation of the aged.

The deterioration of the thyroid gland, which usually is the accompaniment of old age, produces the piping voice, impotency and senility. Old age can be deferred Metchnikoff and Lorand both claim, by rejuvenating this gland which can be done in a measure, with the extract of thyroid of sheep, daily given to the patient. An improvement is soon perceived in general health, in a more youthful appearance, and virility often returns, the voice grows stronger and life is prolonged. Goat milk, cow's milk, sour milk, and raw eggs are foods, that by increasing metabolism, exert a marked beneficial influence on longevity by improving the condition of the thyroid and sexual glands.

Sir Victor Horsley, a pioneer in the study of myxedema, a decreased oxidation which has a close connection with senility, ascribes old age to the degeneration of the thyroid gland. If the thyroid gland and the sexual glands are prevented from deteriorating, old age will be deferred. Lorand says "It is a well known fact that ex-

tirpation of the ovaries and testicles is followed by obesity and other symptoms of old age. Now eunuchs as a rule, look much older than their age. All agencies which are harmful to the thyroid gland, as syphilis, abundant meat food, alcohol and tobacco, toxic products which cause arteriosclerosis, a limy deposit—which is one of the chief causes of the apoplexy of old age.”

Undoubtedly the Swiss, being so affected by cretinism—a morbid enlargement of the thyroid gland called “goiter” may attribute this as the reason why Switzerland has so few old people and no centenarians.

Various means of prolonging life have been sought after in all ages from King David down to Brown Sequard. Gerokomy or uniting with old men a young and vigorous girl, to impart life to the aged and feeble, has been practiced more or less in all ages—and with beneficial results.

Cohansen, a physician of the 18th Century tells us of Hermippus, a Roman Schoolmaster who taught young girls all his life and lived to be 115 years old. The Tavis, two centuries before Christ, discovered a draught of immortality known as the “golden elixir.” The chemists and ancient alchemists have vainly striven for a panacea to prolong life.

Brown Sequard made some advancements for a specific against senescence, in rejuvenating the aged and delaying senility, by the employment of sub-cutaneous injections of the emulsion of the testes of animals—but hygienic measures have been more generally successful.

Prof. Irving Fisher, U. S. Good Food Expert, gives to us concisely in two words, the factors that produce long life—“*Avoid poisons.*”

Francis Moule Bjorkman, commenting on Prof. Fisher’s political economy says “*Avoid poisons, poisoned*

air, poisoned water, poisoned food, poisonous thoughts, poisonous emotions and just plain poisons like alcohol, tobacco and drugs. Breathe deeply of pure air, eat abstemiously of foods demanded by a normal appetite.

“Exercise for the delight of physical expression, not to win a game or because you think you ought to, exercise the intellect and the emotions as well as the muscles. Wear as few clothes as possible and those of porous material, so disposed as not to weigh too heavily upon, constrict or destroy the balance of the body.

“Bathe frequently enough to keep the skin in condition for performing its eliminative functions.

“Keep cheerful—don’t worry.”

Air, air, air, will promote longevity as nothing else will. Pure air is life, foul air is death. Remember “The Black Hole of Calcutta”—and the underground room where the three hundred men were confined after the battle of Austerlitz. In every house they are duplicated. John Muir says *“As long as I camp out in the mountains without tent or blanket, I am comfortable, but the moment I get into a house, I am coughing and sneezing and threatened with pneumonia.”* Windows for sunlight and pure air, should be in every room and always open, as it is imperative to health—yet Dr. Jacobi says *“There are in New York City 300,000 rooms without a window”*—a burning disgrace to Gotham’s Board of Health.

The eminent hygienist, Dr. A. T. Schofield, of London, says *“We can neutralize the value of open air in the day by a tightly closed bedroom at night. It is the indoor life that kills. Night air is only poisonous when found indoors.”*

Dr. Pierce Kintzing says *“Foul air impairs character, ozone engenders optimism, bad air makes a pessimist.”*

Prof. Alvin Davison says *"It was thought until recently that night air was unhealthy but analysis has shown it to be purer than day air. Sleeping in the night air has been one of the most efficient means of curing tuberculosis."* Dr. Kinsing tells us "that 50,000 persons in New York City are afflicted with tuberculosis, of which 9,000 die annually, all of which could be prevented by pure air, for Koch, of Germany, the discoverer of the germ, maintains that it is an inhalation disease."

Dr. Woods Hutchinson says, "We know fresh air is necessary to life and yet night after night we shut and lock our bedroom windows as though the night air was a pestilence—in the day time we observe the same fear in our office—business being over we fly to another hermetically sealed room and dine—then for relaxation we repair to a packed and reeking den called a theatre, as innocent of ventilation as the "Black Hole of Calcutta," where packed among three thousand other human beings we breathe the emanations from their lungs, skin and teeth for three more hours.

"Then we talk of the terrible strain of modern city life. The worst strain is not on the brain but on the lungs. Apart from its foul air, city life is the easiest, happiest and practically the healthiest life yet invented."

Our own inimitable Artemus Ward, whom the writer knew well who met his death by tuberculosis in the foul air of the lecture room—serio-comically remarked when lecturing in the Egyptian Hall, Picadilly, London, "I wish that when the Egyptians built this hall they had provided some means for its ventilation."

One day the writer was called to see an infant dying with teething. It was in a hot kitchen—not a breath of air—with burning fever, inability to digest its food and with the sweat of death on its brow. He ordered it put

in a baby wagon wheeled daily for hours in the open air, kept in a well ventilated room during the night and day as well with some other hygienic and dietic advice and in a fortnight it was restored to health. Eternal vigilance is not only the price of liberty but it is the price of health. On a busy city street we inhale 14,000 microbes every hour, says Dr. Schofield, and to combat this infection we must have personal hygiene, hygiene of nutrition, and hygiene of activity.

In addition we are nearly all handicapped by heredity, habits or environment which we must overcome. Cornaro, at 37, forswore drunkenness and lived to be a centenarian—Humboldt was a puny boy physically and mentally—his tutors thought him deficient in intelligence but he surmounted both, became an intellectual giant and lived to be a nonagenarian. Fisher reports a poor woman in New York City who cured herself of tuberculosis by sitting daily on her fire escape—and other poor who had contracted consumption in their illy ventilated workshops curing themselves by sleeping at night on the roofs of their houses.

Sex is a factor in long life, especially in civilized and warlike countries. Man is more exposed than woman in the struggle for existence—and great numbers are destroyed in war. Did this condition not exist there would probably be little or no difference in their respective longevity, as the same number of sex is born yearly. Hufeland, a Prussian authority says, "Not only do women live longer than men but married women live longer than single ones, two to one."

More women reach 115 years than men in England and beyond that age more men are found. The same condition exists in the United States from statistics we have cited. Metchnikoff tells us "That women reach

a hundred years and live beyond that time much more than men." In Greece in 1885, in a population of nearly 2,000,000 there were 278 persons aged from 95 to 110 years, of whom 133 were males and 145 females. It is singularly interesting to note that the female centenarians in the United States were nearly twice as many as the male, while in Bulgaria they were nearly the same.

This can be attributed to the fact that in Bulgaria the sexes live through life much alike, the country being pastoral and agricultural, while in the United States men are more exposed in war, mining and navigating, in their struggle for a livelihood than are the women.

The religious, as we have stated, all things being equal, live longer than the irreligious, because their faith gives them a hope in a future life—and this begets a contentment of mind that is a potent factor in longevity. The possessor of an amiable disposition will outlive the crabbed and irritable. The former is unaffected by the worries of life—while the latter is jaded and harassed until made ill, by every annoying care of the day. John Wesley, one of the world's great men, died in 1791, aged 88 years. He did not inherit a robust constitution but acquired it by being exceedingly temperate—arose regularly at an early hour, was of cheerful disposition and even temper, took constant exercise and was a lover of regularity.

Leo the XIII one of the most eminent and learned of the Popes, accomplished an almost insurmountable amount of work, but was possessed with a placid disposition that did not worry, and lived to be 93. An old man is said to be like an old wagon—with light loading and careful usage it will last for years—but one heavy load or a sudden strain will break it and ruin it for ever. The writer heard William Cullen Bryant, at the unveil-

ing of the statute of Mazzini in Central Park, New York, one hot summer's day in 1876. The poet was 80 years old but had the well preserved appearance of a man of 65 or 70.

Bryant sat for a long time on the platform in the heat of the day and then made the speech of the occasion—his head bared to the hot sun. Entering his son-in-law's residence nearby at the conclusion of the services he fell with apoplexy—the old wagon got a sudden strain and gave way.

With care and quiet and freedom from exposure to extremes of temperature the author of *Thanatopsis* might have lived years longer.

Dr. Charles K. Mills, Professor of Neurology in the University of Pennsylvania says "*Brain-fag from over-work is not making nervous wrecks out of the American people. It is dissipation. Mere brain work does not hurt. Where the mind is equipped and capable men may be at work all day and half the night. Worry and dissipation cause nervous break downs.*"

The King of all thinkers—Shakespeare—philosophized therapeutically when he wrote "Frame your mind to mirth and merriment, which bars a thousand harms and lengthens life."

Physical exercise, when severe, by overstraining the heart, shortens life. Hard working laborers, gymnasts, heavy lifters, prize fighters, and athletes who lead a strenuous life, do not as a rule, live to an advanced age.

Dr. Kintzing, in his "*Long Life and How to Attain It*" says, "A man, to attain long life, must keep his body in equilibrium and not allow the accumulation of useless fat. Neither the very small nor very large, the over strong nor the abnormally weak, are apt to represent the longevity class. The average height of persons over

eighty is 57 inches. The early children of a family are longest lived. The long lived must be moderate eaters and consume very little animal food. He must use very little alcohol, he must be cheerful, of even temper, placid and mild, he should live in the open, his life must not be sedentary—a suburban is better than a city life—sleep with windows open, take morning cold baths, walk a few miles daily, cut out strong cigars, take a light wine instead of alcohol, eat more greens and less meat, and you will near the century mark before your obituary is written.”

Cancer—a deadly foe to longevity—is confined, it has recently been discovered, to the meat eater. Vegetarians are exempt from this malignant disease, that destroys one-seventh the human family.

Longevity and a mild temper have a correlative bearing one on the other.

An English writer has well said: “That while excessive labor, exposure to wet and cold, deprivation of sufficient and wholesome food, bad lodging, sloth and intemperance are all deadly enemies of human life, none of them are so destructive in their effects as violent and ungoverned passion. Men and women have survived all the former and at last reached an extreme old age—but it may be safely doubted whether a single instance can be found of the man of violent and irascible temper, habitually subject to storms of ungovernable passion, who has arrived at a very advanced period of life.”

Monsieur Metchnikoff, head of the Pasteur Institute of France, recently stated that he has not only discovered “*The germ that creates Old Age*” but that he has also discovered the germ that *eats* the germ that creates Old Age.”

If we had in the generations past lived a natural life—as do the animals in their wild state—we would not have any bacilli of old age to be destroyed by antagonistic microbes, but as we have not lived close to nature, we welcome Metchnikoff's discovery as we did—Jenner's vaccination, Jackson's anesthesia, Klebs-Loeffler diptheria bacillus, Koch's *Bacillus tuberculosis*, the *Bacillus icteroides* of Sanerelli, the Comma bacillus of Koch—and Pasteur's serum for Rabies.

Dr. Alex Carrel, the eminent biologist of the Rockefeller Institute of Medical Research, has recently (1913) demonstrated that human cells, excised from the human body can be kept alive indefinitely if sustained in a proper medium—and concludes that if our various vital organs are properly safeguarded, there is no reason why man should not live forever.

Fanny J. Crosby, the famous blind hymn writer, aged 94, author of "Safe in the Arms of Jesus," writes us March 16, 1914, from her home, Bridgeport, Conn. "I cannot attribute my long life to anything except I have never worried, have lived the normal life of a happy woman, and have trusted in my Heavenly Father." Delia C. Torrey, aunt of Ex.-President Taft, a nonagenarian, writes me from Millbury, Mass., December 7, 1913: "My ancestors were all long lived, have always guarded my appetite, my habits are regular."

Dr. N. S. Davis, the eminent surgeon, speaking of attributes of long life, says, "Nothing will contribute more towards protracting the period of old age and rendering it healthy than the possession of a contented, cheerful, and hopeful state of mind, and nothing is so certain to develop this as a life well spent in useful work, coupled with that serene hopefulness in a future life which a full faith in the Christian religion alone inspires."

Longevity has advanced more years in the general average of life in the past century than in all the centuries that have preceded.

In every age we have had long lived men and women—far beyond a hundred—but in prior ages the general average of life was about 20 years, because hygiene was not known and practiced by the masses. Now the State has awakened to the necessity of vital conservation and each year legal enactments are becoming more stringent in every detail of life, and as a result the general average of life is increasing. If continued another century, we will see average life reaching out to 100—then the possibility of reaching the maximum of 150 years is not a contingency. Municipal hygiene, State hygiene and Federal hygiene in the hands of Boards of Health can forward and perfect this movement for longevity.

Dr. Arnold Lorand, the distinguished Austrian Physician, in his celebrated work "*Old Age Deferred*," lays down twelve rules to promote long life which would be the *ne plus ultra*, if to these rules were added, climate, a semitropical, sea level climate, such as is found in perfection in California—yet withal, they are highly valued and we present them to the reader.

"1. To be as much as possible in the open air and sunshine, plenty of exercise, breathe deeply and regularly.

2. To live on meats only once daily, eggs, cereals, green vegetables, fruit, pure raw milk and masticate thoroughly.

3. To take baths daily.

4. To have a daily action of the bowels.

5. To wear porous underwear, loose collars, light hats, if any.

6. To bed early and rise early.

7. To sleep in a dark quiet room, window up, and sleep six or six and a half hours.

8. Have vacation one day every week and absolutely do nothing.

9. *Do not worry, say nothing unpleasant, and listen to nothing unpleasant.*

10. *If single, get married, and avoid sexual excesses.*

11. *Be temperate in the use of alcohol, tobacco, tea and coffee.*

12. *Avoid overheated and illy ventilated rooms—to replace or re-inforce the functions changed by age or disease, but under the care of a physician.”*

CHAPTER IV.

Longevity of California Trees.

Pot Plants East Grow Into Trees Here—The Flora Highly Prolific—Enormous Growth of Vegetation—Children Grow Large—A Winterless Year—John Muir's Redwood Giant—A Sequoia Gigantea 5,500 Years Old and No Signs of Decay—The "Grizzly Giant" Scientists Believe to Be 8,000 Years Old.

The flora of California is longer lived than the flora of any other State, or that of any other country in the world.

Annuals elsewhere—most of them become perennials here,—pot plants in the east, often grow into trees in our trans-Rocky Mountain States, develop into a large tree here, several inches in diameter, and bearing on its widespread branches roses by the thousand.

Vegetation grows to an enormous size. Possibly we have a reason in a twelve month growth—in a twelve month flood of sunshine. Moonshine stimulates growth, as do electric lights at night, but the great number of days in the year of genial sunshine is the secret.

A horticulturist of California writes of a peach tree he planted from the seed, and in 28 months it bore fruit 9 inches in circumference—weighing 8 ounces—and 34 on the tree.

In the Board of Trade rooms at the Ferry Building in San Francisco you will find the most remarkable ex-

hibition of horticultural and agricultural products of California—an exhibition that cannot be duplicated by any other city or any other country in the world:

A beet weighing	56 lbs.
A pumpkin weighing	250 lbs.
A radish weighing	40 lbs.
A watermelon weighing	50 lbs.
A sweet potato weighing.....	12 lbs.
An Irish potato weighing.....	8 lbs.
An apple weighing	4 lbs.
Turnip grown in 40 days.....	23 lbs.
Millet.....	10 ft. high
Wheat.....	103 bu. to the acre
Alfalfa.....	12 tons to the acre

We know of no other State or country or climate but California where the wizard—Luther Burbank—could carry on his marvelous investigations.

Thirty-five years ago, says Binner in his Brochure on Luther Burbank, the potatoes were round, red and small—now they are long, white skinned and large. He has produced a walnut which grows twice as rapidly, a thornless cactus that produces 200 tons of food to the acre, a seedling chestnut that bears a crop of nuts, after six months growth, from the seed. He has produced a cobless corn, 10,000 different kinds of plums, a stoneless plum, thornless blackberries, white blackberries, and a cherry tree on which there are more than 200 varieties.

The large average of sunlight and the warm, genial climate every month of the year, stimulates the phenomenally rapid growth in California of everything that lives.

Children at 10 years of age average as large as children of 12 east of the mountains—for unquestionably children, as trees and animals, are stunted in their growth by the long cold winters.

A two-year-old colt here is as large and strong as a three-year-old in the Eastern States, a fact often proven

on the race course, where the standard and thoroughbred have often carried the banners of the Golden State to victory.

Poultry show their appreciation of our beneficent climate by laying annually (1913) 50,000,000 dozen eggs. The cows, not to be excelled, furnish us 45,489,140 lbs. of butter yearly, and the busy bee finds so many sunshiny days in the year in which to gather from the flowers 12,000,000 lbs. of honey.

A cow owned by Morris & Sons, Woodland, Cal.—Tillie Alcartra—has broken the world's milk producing record, yielding 30,452 pounds per year.

Life in our California climate touches the gamut of all existence—from the insect that lives but a day, to the "Gigantea Sequoia"—the Giant Redwood, whose life reaches back fifty-five and more centuries and today shows not a sign of decay.

J. Smeaton Chase, in his "Yosemite Trail" says, "The famous Big Trees of California, the greatest of all trees, and of an age that extends to thousands of years—certainly 4,000—possibly much more, are grown only on the western slope of the Sierra Nevada—at an elevation of 5,000 to 8,500 feet."

John Muir, perhaps the world's greatest writer on trees, says in "The Mountains of California"—"The largest Redwood I have yet met in the course of my explorations, is a gigantic old scarred monument in the Kings River Forest. It is 35 feet and 8 inches in diameter (107 feet in circumference) four feet from the ground. Under the most favorable conditions these giants live 5,000 years and more. I never saw a Big Tree die a natural death—barring accidents they seem to be immortal—being exempt from all age and decay. No other tree in the world as far as I know, has looked down

on so many centuries as the Sequoia. The old Kings River Giant was in its prime, swaying in the Sierra winds, when Christ walked on the earth." Scientists arrive at the age of a tree, as you know, by counting the circles from center to circumference.

"THE GIANT OF ALL THE SEQUOIAS."

The Amador sentinel of August 15, 1888, writes: "Fred McClough, a well known engineer of the Comstock, has been spending some weeks in the wilds of the Sierras, about the headwaters of the Kaweah River, in Tulare County, California. Mr. McClough said, on his trip, they discovered a Sequoia which he believed to be the largest on the continent of America. He found it to be 171 feet in circumference (57 feet in diameter) at a point above the ground as far as he could reach. This monster tree stands in a small basin, near the Kaweah River, and is surrounded on all sides by a wall of rugged rocks. The top of the tree is broken off but it is still of immense height."

There is a remarkable group of giant Redwood trees in Tulare County. One a 5-acre lot, ten trees were counted of the following dimensions:

1	.....	30 feet in diameter
2	.....	28 feet in diameter
1	.....	27 feet in diameter
1	.....	26 feet in diameter
1	.....	25 feet in diameter
1	.....	23 feet in diameter
1	.....	22 feet in diameter
2	.....	20 feet in diameter

These trees were from 275 to 325 feet in height, and it is estimated that each tree would yield 100,000 feet of lumber.

Nowhere else can be found such a collection of trees

of such enormous proportions—and nowhere else in the world can such longevity be found among trees.

MARIPOSA GROVE.

Four hundred and seventy-five trees—"Sequoia Gigantea"—stand in the celebrated Mariposa Grove, towering from 300 to 350 feet high, and from 20 to 30 feet in diameter. This grand collection of mighty trees, from 3,000 to 4,000 years old or more, exceeding in size and age anything known in the world, standing without a peer, unapproached and unapproachable, has been wisely secured by the Government of the United States, to be held in perpetuity, for the admiration of future ages.

"The Grizzly Giant," the king of the Mariposa forest, the largest and oldest tree in the world, is estimated to be 8,000 years old.

John Muir gives a list of other California trees, with their height and size, illustrative still further of California climate, and the prodigious growth of other trees than the *Sequoia*.

The Nut Pine grows.....	50 ft. high,	6 ft. in diameter
The Sugar Pine grows.....	220 ft. high,	12 ft. in diameter
The Yellow Pine grows.....	220 ft. high,	6 ft. in diameter
The Incense Cedar grows....	150 ft. high,	7 ft. in diameter
The Red Fir grows.....	240 ft. high,	5 ft. in diameter
The Tamarac Pine grows....	90 ft. high,	6 ft. in diameter
The Douglas Spruce grows...	220 ft. high,	7 ft. in diameter
The Mountain Pine grows....	90 ft. high,	6 ft. in diameter
The White Silver Fir grows..	200 ft. high,	6 ft. in diameter
The Silver Pine grows.....	210 ft. high,	6 ft. in diameter

To show how much more productive California trees are than the same species elsewhere, John Gill Lemon, in his "*West American Cone Bearers*" says:

"Is it not passing strange, that out of 20 pines in Europe and Asia, and 12 pines in the Eastern States, not

one should develop cones as large as either one of the five pines in California?

All species of trees known in the Eastern States, when found in California, are giants, compared to their dwarfed cousins East of the Rocky Mountains. The Sugar Pine, from which we extract the maple syrup, hardly ever grows more than three to four feet in diameter and 80 feet high, in the Eastern and Middle States; here in California, Lemmon tells us "grows 300 feet high and 20 feet in diameter."

Most vegetation which is annual in Eastern America, when brought here is perennial—the climate prolonging their lives indefinitely.

The oak East of the mountains is found at times 6 and 8 feet in diameter, here there is one at Wheatland, California, 27 feet and 7 inches in diameter and has a spread of 145 feet.

The purity of the air in this climate—air that seems to be charged with a large percentage of ozone—carries with it a remarkable preservative power. This is observed by hunters hanging up their meat in the open to dry—which it does without putrefaction.

The Government has issued a bulletin telling of two parks of thirteen groves containing over 12,000 trees greater than ten feet in diameter.

In the Sequoia National Park some of the trees are named after prominent men—the General Sherman is 286 feet high and 36 feet in diameter; the Abraham Lincoln 270 feet high and 31 feet in diameter and the William McKinley 291 feet high and 28 feet in diameter.

John Muir relates an extraordinary instance he observed, regarding the preservative effect of the atmosphere on the durability of the redwood. "I have a speci-

men block," he says, "cut from a fallen trunk, which is hardly distinguishable from specimens cut from living trees—although the old trunk fragment from which it is derived, has lain in the damp forest for 380 years, and probably twice as long. A fir had grown out of the ditch, which it made at the time it fell, and in which it has since lain—380 years old."

There is only one other country in the world that has trees that have attained to anything approaching the age of the California redwood, and that is Cape Verde, which possesses a climate somewhat similar to ours. In a garden of Oratava in Teneriffe, stood a gigantic dragon tree, that was overthrown by a storm in 1868. It was 50 feet in circumference, and as dragon trees grow slowly, it was estimated to be 3,600 to 4,000 years old. The Baobab of Cape Verde is still older, and 30 feet in circumference, was estimated by Adamson to be 5,100 years old.

The Giant Sequoias of the Sierras are not only the Kings but the Methuselahs of the forest world. They occupy the same rank among the arboreal as the elephant does among the land animals—or the whale among the finny tribes of the deep.

They stand today in their prime and have stood as gigantic sentinels, unscathed by the storms of fifty centuries. Dynasties have risen, flourished for a time, passed away and were forgotten. Kings and queens appeared and disappeared—the nations of the world, moved on in their turbulent course, battles were fought and won, crowns crumbled, but these mighty trees stood and grew and flourished, unmindful of the centuries as they came and went.

Judging from their past, we are led to think with Muir—"they are immortal."

Let travelers tell us of the dead geological wonders of the world—of the Giant's Causeway, of the Alps and the Himalayas, of Niagara and the Mammoth Cave—but here in California, in her marvelous climate, are found living groves of Redwood with their topmost branches lost in the clouds, more wonderful and awe-inspiring, and more symmetrically beautiful in their mastodonic proportions, challenging our supreme admiration as do no other of God's masterpieces.

Napoleon, marching with his army under a burning Egyptian sun, encouraged his weary men in their fatiguing journey by these memorable words, pointing to the Pyramids: "*Soldiers! Forty centuries look down upon you.*"

So, as we look upon these living giants of the forest world, are we not inspired with thoughts equally sublime, and can we not paraphrase the eloquence of the great Corsican—and say to the beholder—as we point to this mighty Sequoia, the grizzly giant of Mariposa: "*Behold! Not forty, but eighty centuries look down upon you?*"

CHAPTER V.

Longevity of the Aborigines of California.

Great Age of Indians—Old Gabriel of Monterey—Nut-Eating Indians—Meat-Eating Indians—A Tejon Indian 180 Years Old—Climate Secret of Long Life—General Vallejo and Old Napa—Primeval Indian Pastoral, Sober and Industrious.

The longevity of the California Indian is the only positive test we have of what the climate of the Golden State will do to prolong human life—as the influx of the white race did not materially begin until the discovery of gold in 1849—66 years ago (1915).

We will furnish proof of the fact that the Indian of California lives longer by 50 to 75 years than he does in any other state or country in North America, as we gave evidence to you in the preceding chapter of the longevity of the trees, surpassing in long life not only all other states, but all other countries. The reader has no doubt already concluded that climate is the important factor in the long life of the trees, and we will proceed to furnish testimony that it acts equally favorably in promoting longevity in the human family. To substantiate our contention, we will cite examples of the great age that Indians of today, and the aborigines as well, have attained in California. Indians 150 years old—proven beyond question—have lived in this state in the past twenty years, and if we could arrive at the age of

the early Indians, prior to the advent of the whites, we might find them nearer 200 years old.

One of the most noted and remarkable instances of longevity among our modern Indians, whose age can be authenticated, is Old Gabriel, of Monterey, California. As near as can be computed he was born near Monterey in 1739. Father Junipero Serra, when he landed in Monterey in 1770, baptized Gabriel, who was then 31 years old and a grandfather. This statement is substantiated by the records of the San Carlos Mission, and corroborated by Zachariah—Gabriel's son by a fourth wife—who died at Gonzales, Monterey County, in 1900, aged 114 years. Father Sorrentine, Catholic priest at Salinas, first saw Gabriel in 1864, and he was more than 100 years old at that time.

Old Gabriel was a strict Catholic, and very punctilious in the observance of his religious duties. He was a light eater, never used intoxicating liquors, tobacco, tea nor coffee, but "was fond of fruits and everything sweet." He was small and sinewy, and in his prime did not weigh more than 150 pounds.

Mr. W. S. Johnson, a banker at Salinas, told the writer in 1890 that Old Gabriel lived for many years on his farm, and had a saying "*that a man dug his grave with his teeth*"—in other words, killed himself by inordinate eating. Mr. Johnson said it was Gabriel's invariable custom, when indisposed, to fast a day or two, sometimes three or four, until his health was fully restored.

Gabriel was a disbeliever in hydrotherapy, and a bath to him was a thing unknown. He delighted, however, in a sun bath, sitting for hours daily in the sun, which in a measure took the place of water in cleansing

and purifying the skin by evaporation and the sterilizing action of the sun's rays.

He opened up the pores of the skin by twice a week scraping himself all over with an old sheath knife. (A Mr. Bass, a 95-year-old merchant, of remarkable health, living in a suburb of Cincinnati, told the writer in 1884, that he never took a bath in his life, but each morning on arising would go all over his body with a stiff flesh brush.) Father Sorrentini, of Salinas, procured affidavits from four old people who testified to Old Gabriel's great age—151—and these with his picture were sent to Rome and hangs now in the Vatican, as the oldest man in the world. He could thread a needle without glasses two years before his death. His hair, we are told, had much of its original color—black—in it to the last, and he had five teeth. An autopsy was made and his liver had shrunk to one-third its natural size and the spleen to one-half. Another peculiarity was that the cartilages were but little ossified.

This same peculiarity was observed in old Dr. Parr, who died in London in 1635—152 years old—when Dr. Harvey made the autopsy.

Old Gabriel died at the county hospital near Salinas, Monterey County, California, of pneumonia, March 18, 1890, 151 years old, and was buried at Salinas. We are told "he ate little, avoided meat and wine, and preferred fruit and fish." When Old Gabriel was a neophyte he was taught the simple life by Junipero Serra—the greatest of missionaries—and the rigid following of abstemious and temperate habits taught him by the old Spanish priest, was the secret of his phenomenal longevity. His great age would never have been chronicled had he lived in another climate than California. Here the balmy sunshine and almost never varying tem-

I saw an old Indian in the Tulare Valley of the perature furnished the complement necessary to the fulfillment of a century and a half.

In 1888 the writer was in Yuma, California, and there saw an Indian of the Yuma tribe 121 years old—as given by the old men of his race, many of whom were 90 and 100 years of age. So great was his virility that he had recently married a young wife, who had borne him a son.

His skin was like a board—thick and hard—and his eye showed plainly the *arcus senilis*—the usual accompaniment of great age. Brinton, in his "*American Race*," tells of the food they ate: "The Yumas were an agricultural people, cultivating large fields of corn and beans."

The reports of the Fathers of the Missions of California prior to 1849 tell us of great numbers of Indians far beyond a hundred.

Dora Di Santos, an Indian woman, died at Santa Rosa May 6, 1912, 106 years old. Living with her was a son 87 years of age. Six years ago she celebrated her hundredth birthday, which was attended by many of the pioneers of the county.

An Indian woman, now living—Mrs. Maria Wilson—at Colusa, is 108 years old, as reported to us from the Indian superintendent.

Halley¹ tells us that in 1875 a Mission Indian, named Justinia Roxas, died in San Jose at the advanced age of 122 years, being born in 1753.

Bruno, an Indian of the early Missions, died in 1870, in the almshouse at San Francisco, aged 110 years.

¹History of Alameda County—1876—p. 22. Wm. Halley.

²Reminiscences of a Ranger—By Major Horace Bell, 1881. P. 343.

"Old Dona Ulalia"² died near Visalia in 1880, at the age of 150 years.

Tejon tribe, who was much older than Dona Ulalia. He was the oldest-looking human being I ever beheld. When the sun was warm, the Indians—who were very kind to him, he being unable to walk—would carry him out in the sun, and lay him on deer skins, where he would remain all day. He was probably in the neighborhood of 180 years old, according to the report of the Indians who had charge of him.

Saturnioni, of the tribe of San Buena Ventura Indians, died at the Ventura County Hospital February 28, 1912, aged 104 years.

Old Sallie, an old Indian woman, is now (1914) living in the Butte County Hospital at Oroville, 128 years of age. She has lived all her life in Feather Canon.

Maximo,* the Chief of the Mokelko, a tribe of Indians on the Mokelumne River, died near Stockton in 1890, aged 108 years.

Deputy United States Marshal R. J. Dominguez† in 1892, in quieting a land title in San Bernardino County between the Southern Pacific R. R. and the Indians found five Indian witnesses in the Yuma desert, where the temperature was 120° in the shade, the youngest of which was 75 and the oldest was 133 years old.

Juan Saberria is supposed to be the oldest Indian alive in the United States. He was 12 years old when the Mission San Gabriel was built (1771), which would make him 133 years old.

Another Indian, Juan Cahuilla, is 115 years old. Harabisio Cubazon, the chief of the tribe, is 80 years

*History of San Joaquin County, P. 36, 1890.

†Old California Days—James Steele, P. 227, 1892.

old. He is the son of the old chief, who died four years before (1888) at the age of 140.

Francisco Apache is 105 years old. They live in the Yuma desert, under the mesquita trees on pechete, or the bean of the tree.

Caskibel,‡ and old Indian, is living near Healdsburg, over 100 years old (1889).

Ochopolth, Granny Mason, of the Siwash Indian tribe, died in 1909, aged 113 years.

"The age attained," Col. Albert Evans* tells us, "by the native Spanish American, and usually part Indian, inhabitants of this coast is truly marvelous.

"I never knew but one of them to die, and he might have lived to a green old age had he not been knocked down and run over by a runaway flour mill truck team on Pine street, San Francisco, in 1868. He was 104 years old when he was prematurely cut off.

"Cimon Avillos, recently (1897) living at Todos, Santos Bay, Lower California, was one of the military guards when Padre Junipero Serra raised the cross of the Mission San Diego in July, 1769. This old conquistador had been a soldier in the Spanish army several years before this event, so that his age today (1897) cannot be less than 152 years."

At Pescadero the claim to being the "oldest inhabitant" lies between Don Salvator Mosquito, a Mission Indian, and Senor Don Felipe Armas, a Californian of Spanish parentage. Armas remembers that when King Kamehameha of Hawaii, in 1811, found that the cattle which had grown wild in the islands had become an unbearable nuisance and sent over to this country for vaqueros to kill them off, and he—Armas—was selected

*A. la California—Col. Albert Evans, 1897, P. 68.

‡History of Sonoma County—Hon. Geo. A. Johnson, P. 212.

as one of the party. He was then, he said, 35 years old, being born in 1776. He was alive in 1897 and 121 years old.

Chief Kahotium, 102 years old, of the Pima tribe in Southern California, offered his services to President Wilson, November 1, 1913, to fight the Mexicans. Despite his age he is strong and vigorous.

"Weneeslao Garcia,* an Indian over 100 years old, and who fought with the Mexican troops in the second battle of Tia Juana, arrived here today from the South. Garcia was a regular soldier of the Mexican Army in Lower California during the insurrection."

We discover that the nut, maize and bean eating Indians are longer lived, while the meat-eating Indians are all short lived.

Brinton,† speaking of the meat-eating Pawnees of the Missouri and Mississippi Valleys, says:

"That longevity among the Pawnees was rare, and few of either sex reached the age of 60."

Catlin,‡ who is the greatest authority we have on the Aborigines, says: "The Indians in their primitive state, are all temperate and teetotallers. Not till after the white man came into their midst did they become affected with the vices of the civilized race—and retrograde and become short lived.

"The meat-eating Indians are more bloodthirsty than the nut-eating Indians, and do not live so long."

History is unanimous in telling us that the early California Indians live longer by seventy-five years than the Indians of any other part of the United States. We can only account for this increased length of life by the

*San Diego paper, Nov. 9, 1911.

†The American Race—Daniel G. Brinton, P. 11-95.

‡The American Indian, P. 23.

pure equable climate of California, where an outdoor life can be lived from January to June and from June to January, and to the nut and maize diet, for meat unquestionably shortens life, not only among the Indians, but also among the whites, as we shall later show.

Hutchins* tells us "that the principal article of diet of the early Indians of California, are pine nuts, acorns and out of the latter they make bread or mush."

In cold countries meat seems to be a necessity to furnish food (carbon) for the body, and it is a question, easy to propound, but difficult to answer, which it is that shortens life, a meat diet or the cold climate, compelling an indoor life, or both.

Old Gabriel 151, Dona Ulalia 150, Chief Cabazon 140, the Tejon 180, among the California Indians, whose food consisted of nuts and maize, and among the whites noted for longevity we have Old Thomas Parr, the Shropshire peasant, 152, and Pierre Zortay, the Hungarian goat herder, 185, who lived on milk, cheese and vegetables, are examples of what a non-meat eating diet will do.

Grinnell tells us† "that the Indians east of the Rocky Mountains, whose diet was chiefly meat, are very short lived."

To illustrate the perpetually mild climate of California, where the aborigines lived throughout the year, absolutely nude, Mr. Halley* relates the following anecdote: "The old Indian, Chief Napa, from whom Napa County is named, paid a visit to General Vallejo one cold day, wearing nothing but a coat of war paint. 'Are you not cold?' asked General Vallejo, 'with no covering on your body such a day as this?' 'Is not your face

*In the Heart of the Sierras—J. M. Hutchins, 1888, P. 423.

†The Story of the Indian—Geo. Bird Grinnell, 1895, P. 254.

Powers tells us in "*The California Indian*" "that they lived largely on vegetables and nuts, and as athletes were superior and were a healthy and long lived race." cold?" asked the old Indian, in reply. 'I never make a practice of covering my face for protection against cold,' replied the General, 'it is not necessary.' 'Well, Napa's body all face, and want no covering—ugh,' replied the Indian, who made his point tell."

Father Ubach,† has known a number of Indians in Lower California, who were employed in building the San Diego Mission (1769), a century before he took charge of this Mission, and their ages (many of them were still living in 1891, at the Indian village of Capitan Grande) must be from 145 to 150 years of age.

The California Aborigines were infinitely superior to their descendants who had become contaminated by the advent of the whites. The coming of the Caucasian brought drunkenness, dishonesty, laziness and syphilis—all of which made them dissolute, inferior and short lived.

In 1849 a traveler* journeying through Lower California tells us of the Indian in his primeval condition. "To us it was a rare sight to be thrown in the midst of what is termed wild Indians. They surpassed many of the Christian nations in agriculture, which was carried on by irrigation, fell little behind them in useful arts and immeasurably before them in honesty and virtue. Corn, beans, melons, sugar cane and cotton are cultivated by irrigation. We saw many Indians far beyond a hundred, longevity being the rule and not the exception."

Dr. J. M. Gunn in his "*History of California*" says: "The Indians of California, when Viscaino in 1607 ar-

*History of Alameda County, 1876—Halley.

†Our Italy—Charles Dudley Warner, P. 60.

rived in Monterey, were a noble, temperate, honorable and handsome race—and were not the degraded creatures that some modern writers have pictured.”

How happy were these early California Indians under the tutelage of Father Junipero Serra. “In the lush harvest fields of Monterey their swinging sythes rang blithely upon the mountain side, in the dream kissed valleys rose the song of the Indian herder, as he guarded the magically increasing flock.”

baum, Austin, Texas, 1849.

Bancroft* writes: “Of the many hundred Indians I have seen there was not one who still observed the original mode of life, that had not a sweet breath. Uncivilized, they ate their food cold, and at dawn of day they arise and plunge in the river.” This shows perfect physical health. How different from his descendants, as described by modern writers!

The Mountain Indians, and the early Iroquois of the Mississippi Valley were meat eaters, meat being their chief food, and were a bloodthirsty and short lived race.

The Nez Perce of Idaho and the Apache of Arizona, the Modoc of Northern California and Oregon, and the Sioux of Dakota were all heavy meat eaters, and were the most warlike of their race, and writers inform us that few lived beyond 60 years of age.

The Iroquois of today, where they observe the simple habits of their ancestors, are still long lived. Pablo Moreno, an old Indian at Sonora, Mexico, a similar climate to California, being across the border, died December 29, 1911, 127 years old.

Charles Dudley Warner tells us that Dr. Palmer has a photograph of an old squaw whom he estimates at 126 years. When he (Dr. Palmer) visited her, he saw her

*The California Indians—H. H. Bancroft, VI. P. 341.

put 6 watermelons in a blanket, tie it up, and carry it on her back for 2 miles.

On May 11, 1912, Dora di Santos, an Indian woman, died near Sebastopol, Cal., aged 106. She was living with a son 87 years old.

At the Mission of San Tomas, in Lower California, is still (1891) living an Indian, bent and wrinkled, whose age is computed to be 140 years. Though blind and naked, he is still active, and daily goes to the beach and carries up driftwood.

Dr. Remondino, of San Diego, tells us of an old Indian "who is living (1891) on Philip Crossthwaite's ranch, who mounts his horse and rides over the country daily. From a conversation I had with Father Ubach, I learned that the man's age is perfectly authenticated, and he is more than 118 years old. These very old Indians are strictly temperate and abstemious, the diet consisting of acorns, flour and water."

The deductions we draw in conclusion, after having found the Aborigines of California living from 125 to 175, that their remarkable longevity is due to two causes—the climate and their food.

The mild, genial and healthful climate of our Golden State, permitting an open air existence, combined with a food of nuts, beans and maize, have given the Indians of California a truly marvelous longevity—longevity that cannot be found among mankind, savage or civilized, in any other country in the world.

There is no reason to doubt, if the white race of California, who has usurped the lands of these long-lived Indians, will observe the simplicity in diet followed by his dusky predecessors, together with the hygienic and dietetic rules of which he is theoretically conversant, a longevity unparalleled in history will be his legitimate birthright.

CHAPTER VI.

Longevity Among the White Race of California.

More Centenarians Than in Any Other State or Country—

Thirty-five Centenarians in San Francisco—Captain Diamond 116 Years Old—Mrs. Howard Smith, 108 Years Old, Running a Poultry Ranch—Mrs. Iley Hill Came to California in 1850 With Consumption, Is Now Well and 104 Years Old—Two Hundred Centenarians in California—Climate the Secret of Their Long Life.

Can we not reasonably and logically conclude that if the semi-tropical and uniform climate of California produces phenomenally long life in the trees, and Indians, it will under equally favorable conditions, produce longevity in the white race? The test of great age in California, in the white race, cannot be made as with the Indian, because his advent really only dates from 1849—on the discovery of gold. A child born in 1849 would be only 66 years old at this time (1915). Yet, if we have not had time to grow a centenarian we have them developed here from among the middle aged men and women who came here in the early fifties. Notwithstanding that a great percentage of our immigration has been valetudinarians in quest of health, California can show more centenarians, nonogenarians and octogenarians than any other State in the Union, and possibly more, pro rata, than can be found in any other country on the globe. The uniformity and unchangeableness of the climate of California, of which we have written, produced

by the lofty ranges of the Sierras on the East and the warm North Pacific current, 1,200 miles wide, laving our shores with its tepid waters on the west, make this an ideal climate—superior to any other known to the world. To prove this, we have only to look at the marvelous life of our Gigantea Sequoia, 5,500 to 8,000 years old, and still in their prime, and to scores of Indians who have lived nearly two centuries and the thousands of our white race who have outlived by many years the Bible age of three score and ten.

A cold variable climate shortens life in man and tree—freezing and thawing—the extremes of heat and cold cannot be conducive to a healthy nor a long life. For fifty years past our climate is unchanged, and judging from the Gigantea Sequoia, it has remained the same for fifty centuries past.

Immigrants afflicted with tuberculosis arrive in our State by the thousands yearly, and the germs they disseminate inoculate our native born, and the disease, although not indigenous, seems to the casual observer to have its origin here, when it is imported.

The State Board of Health says: "The heavy mortality from tuberculosis in California is due largely to immigration of people so badly afflicted with the disease that they cannot recover under the most favorable climatic conditions, though they may lengthen their lives somewhat by coming to this land of sunshine. Seventy per cent of the tuberculosis victims are imported," the other thirty per cent, many medical men believe, received their inoculation from the infected immigrant. The United States Mortality Statistics of 1908 says: "California suffers unduly, in comparison with other States, from the fact that it is a health resort, and that a very considerable proportion of the mortality assigned to it,

on the basis of deaths actually occurring, is due to the mortality among recent residents."

Advice regarding any subject is valued from the knowledge the giver possesses. If a beggar advises you how to make money you turn away, but if Carnegie or Pierpont Morgan discourses on finance you listen. If a man, not yet past middle life, with one foot in the grave, tells you how to eat and care for yourself to live long, it falls on an unresponsive ear; but if centenarians like Cornaro, Sir Moses Montefiore, Mrs. Iley Lawson Hill, Mrs. Electa Kennedy or Captain Diamond, tell us how they lived, what they ate, and their daily habits, it arrests our attention and we become interested. When we listen to the vital subjects discussed, we want to have the theories substantiated by facts, and certainly longevity is one of the vital questions of this age, an age that has done more to raise the average length of life than any that has preceded it. The researches of medical men in the past two centuries have stamped out the plagues and epidemics that hitherto have been the terror of mankind.

Climate is overwhelmingly the strongest factor in longevity. It seems that a miracle has been wrought by the forces of nature in the perfection of our California climate. The long life of our trees, Indians and whites is an unchallenged proof of our claim.

This country, being the country of romantic adventure, on the fringe of the western world, where the confluent streams of all nations mingle, where princely fortunes spring up in a decade, where more alcoholic liquors are drunk, where there are more insane and suicides, conditions which prevail in all gold producing countries, where men are keyed to the breaking point of nerve tension, and yet handicapped by these exciting and health

destroying elements, we have more old people in very advanced life, pro rata, than in any other country we know of in all the earth.

It is the climate, of all the world, most favorable to longevity, and had we conservative conditions, that prevail in long settled communities, we would have centenarians as plentiful as we have oranges on our trees. Here are some facts we will now present, and facts are stubborn things:

The California State Board of Health gives the death rate in the State in 1909 as 13.4 for every 1,000 inhabitants, making the average length of life in the State of California 74 years.

In many of the counties of the State, the average length of life is far greater. Imperial County has only 3.1 deaths in every 1,000; Mono County, 3.4 deaths in every 1,000, by far the lowest death rate in any other county in the United States or in any other country in the world, and the highest average length of life.

In Calcutta the average length of life is.....	20 years
In Dublin the average length of life is.....	25 years
In London the average length of life is.....	66 years
In San Francisco, Cal., the average length of life is..	66 years
In Los Angeles, Cal., the average length of life is...	71 years
In Berkeley, Cal., the average length of life is.....	94 years

While the average of Berkeley may be somewhat high on account of the university students, Los Angeles is correspondingly low because it is colonized by invalids.

To show what sanitation will do, the average length of life in Havana, prior to American occupation, was 20 years. It is now 50 years, but the climate of California has done better—it has taken a consumptive immigrant who arrives here at 50, dying, cures her, and she is living today, 105 years old, and in excellent health.

Mrs. Electa Kennedy, of Healdsburg, 105 years of age, and Mrs. Iley Lawson Hill, of Lakeport, 104 years of age, both living (1914) and in excellent health, we cite, and could cite scores of other centenarians to corroborate the wonderful effects of our climate in the rejuvenation of the diseased immigrant—in promoting a phenomenal longevity.

Mrs. Susan Mills, founder of Mills College, 86 years of age, and still (1912) an active woman, thoroughly conversant and interested in all the issues of the day, registered as a voter recently, realizing the predictions of her father years ago, "that women would one day vote and some of his family would live to see it." There is something commandingly beautiful in the Californian—either the native or adopted son—in defending his State against all onslaughts against its reputation. To speak disparagingly of California is taken as a personal insult and resented with the same fervor. The native son sometimes exhibits jealousy towards his imported brother—when the latter disdainfully replies "*I am the more loyal Californian of the two, for you were born here, and couldn't help it, while I came here of my own volition.*"

How we fight for dear old San Francisco, resting like a jewel on the shore of a sun-kissed sea. Earthquake and fire could not drive us away, not even permanently to Oakland or Alameda—both charming transbay cities, and how often have we heard the wag say "*I would rather be a lamp post in San Francisco than a millionaire in Oakland*"—which only shows how we appreciate our beloved city—a city already greater than Tyre and Sidon of old—Asiatic cities that for centuries ruled the destinies of the Mediterranean—while San Francisco with her mighty ships, laden with their com-

mercial cargoes, now with the completion of the Panama Canal, rules the seven oceans.

This warm genial climate, of the Pacific Coast, where life runs easy, and money made without effort, where robust health is stamped on every brow, and an unparalleled longevity is assured—such favorable conditions beget a generosity unique and unknown elsewhere. San Francisco has an undeserved reputation of being the “wickedest city on the globe”—but while not being religious in the sense of a church-going people, its Christian charity is boundless and unsurpassed.

Dr. Charles F. Aked, an eloquent minister from London and New York, recently arrived, charmingly gives his experience:

“I came to San Francisco expecting to find it the wickedest city in the world. I had been led to expect—evidently by those who knew nothing about the place—that it was a sort of a Hell on Earth. I have found it an earthly Paradise. Gay? Frivolous? Certainly; but that’s not wickedness. To call a city wicked you must have wicked men for its citizens.”

Honesty is a pre-eminent characteristic of the men of San Francisco.

They are clean souled, strong hearted, pure-minded men; virile and glad and enthusiastic in their play and work. And why? Because the climate makes them so. You’ve got to be clean souled; you’ve got to be strong hearted; you’ve got to be pure-minded under this constant and uninterrupted purity of air. You can’t help being glad and enthusiastic in whatever undertaking you pursue and in this wondrous atmosphere of light and warmth, that invigorates in the morning, rejuvenates at noon and helps you to sleep soundly at night.

That accounts for the spirit of the men and women of San Francisco. Miss Kenney, a cultured English visitor, recently said: "Your men here are all workers and all thinkers, and for that reason you are bound to get a higher standard of living, of wages, and of civic life."

We challenge any immigrant—it matters not from what country he comes—to enter our hospitable land and remain with us a single year, and be contented elsewhere afterwards. San Francisco and California need no panegyric from us—every visitor is a walking laudator to the fairest city and most beautiful land the sun ever shone upon.

"*Suburban Life*" an Eastern publication, gives this well-deserved encomium on our climate, which we can take as a common estimate of how our visitors appreciate, what to them is bewitchingly unique.

"With an average temperature of 62 degrees, with golf and other April sports every day in the year, and with the beauties of the Pacific Ocean on the one side, and the mountains on the other, California forms an ideal place for the mid-winter vacationist or the tourist who is seeking a change from the biting winds and blizzards of the East and Middle West."

Superintendent Hyatt, speaking of mental growth in California, says:

"The mental growth comes from the same causes as the remarkable physical growth of California youth. Almost without exception California children are larger, taller and stronger than their Eastern cousins.

"It is probably the result of a longer growing season in California—the temptation for outdoor life, and abundance of fruit and vegetables throughout the year."

United States Statistics of 1911 show that babies

thrive well here—infant mortality is only eighty-three per cent in 1,000, while the general average in other States is 112 per cent in 1,000.

Dr. H. H. Sheffield, of Berkeley, who had two sickly babies he brought to this State, that have developed into two young women supreme in all women's sports, due to the pure air of California. He says of them: "My daughters have simply lived naturally. They do not eat meat, drink tea or coffee, nor wear corsets. They have the coast championship in swimming, base ball and long distance running."

Professor Walter E. Magee, head of the physical culture department of the University of California, found that the California girls not only out-measure their Eastern sisters in almost every point, but that they approach very nearly to the type of perfect feminine form as formulated by Raphael, Leonardo da Vinci and Albrecht Durer centuries ago.

Prof. Wm. G. Reed, lecturing before the University of California on "*Our Climate*," says:

"The temperature is about the same throughout the State, varying not more than 10 degrees. At Eureka on the north it average 51 degrees, 55 degrees at San Francisco, and 61 at San Diego.

"The equality is due to the influence of the Pacific Ocean, which maintains a temperature of 55 degrees throughout the year."

All animal and plant life to thrive and reach its maximum of perfection must be in a location adapted to it, and for want of a better name we call the climate or location that produces this highest development, its "habitat." They must have the vivifying effect of the sun's rays—and nowhere in the world do we have more balmy, sunny days than in California.

The outdoor life here is the charm of existence. Not a day in the year but that you can enjoy life in the open and insufflate your lungs with pure unadulterated air—air thoroughly sterilized by the salt laden vapors of the Pacific—which sweep across the State from the sea to the Sierras.

Though California is the world's sanitarium, since its occupancy by the white race, and handicapped as she has been by the yearly influx of thousands of invalids from all other countries, in 1909, our death rate,* as we have stated, was only 13.4 per cent for each 1,000 of our inhabitants.

Official German statistics give seven thousand centenarians in Europe with its 400,000,000 population, or one centenarian to every 57,000 of its inhabitants. California has approximately 400 centenarians, with 2,400,000 people, or one centenarian in every 6,000, and 4,000 over ninety years old.

George D. Leslie, statistician of the California State Board of Health in San Francisco, writes: "*I will say that there is statistical support to your statement that people live longer here in California than in other States.*"

The reasons for our greater longevity are undoubtedly climate, which invites an outdoor life the year round; and less meat, on account of our semi-tropical climate, and more of a vegetable and fruit diet.

There are thirty-five persons in San Francisco 100 years of age and over, and one at Crocker's Old People's Home 118 years old, a woman in San Diego now living 125 years old, and an Indian 180 years old near Visalia. Col. G. E. D. Diamond, who published sixteen years ago a book, "*How to Live to Be 100*," lives at Crocker's Old People's Home, 2507 Pine street,

*Report of State Board of Health, 1910, P 86.

this city. He was born in Plymouth, Mass., May 1, 1796. The writer has personally known him for twenty-two years. He was then 96 and today he seems no older.

We have examined carefully his credentials that go to prove his great age, and have found nothing to lead us to discredit him. Twenty years ago he showed the writer an old New York paper of 1815—he had preserved, giving an account of a steamboat accident on the Hudson River of a mail packet plying between New York and Albany, in which the names of lost and saved were published and the name of G. E. D. Diamond was among the rescued. He was at that time 19 years of age. It was our intention to incorporate in this book an extract from this New York City paper, but it was burned in the great fire of 1906.

Capt. Diamond came to San Francisco January 1, 1877, 38 years ago, at the age of 81, and has lived here since.

He attributes his great age to a vegetable diet, olive oil, which he takes daily, and says he has not touched meat in 80 years. He takes a cold sponge bath each morning. He inherited somewhat his longevity from his father, Joseph Diamond, who died in Huntsville, Ala., in 1866 at the age of 104, which latter we have taken occasion to verify.

Mrs. Electa Kennedy, 103 years old, writes us from Healdsburg, California, November 13, 1911: "I am not a very great meat eater, use very little tea or coffee, have always been used to home cooking and have always been regular in my habits. I was born in Derby, Vermont, January 29, 1809, and in 1852 came to California for my health. The doctors in Vermont all said I had consumption. I crossed the plains in ox-carts in

1852, and rode 1,400 miles on mule back. I am now 102 years old and in excellent health."

Mrs. Kennedy registered at Santa Rosa in 1911 as a voter, and while there someone asked her if she would like to visit Luther Burbank, it being the Floral Wizard's home, and she replied: *"Yes, if he could make something new out of me, as he does the fruits and flowers."* She is still (1915) living and is now 105 years old.

We have observed an almost universal fact that when invalids even are transplanted from other States or countries to California they become rejuvenated, and live to an advanced age.

Timothy J. O'Connor lives in Noe Valley, this city, and is 97 years of age, strong and hearty.

To illustrate the vitality found among even the aged in this climate, we will call attention to Robert Jones, of Grass Valley, who on February 12, 1912, celebrated his 94th birthday on Massachusetts Hill by dancing a clog dance for the entertainment of his family.

His step is still light and elastic, and he says that for at least six more birthdays he will go through the same performance.

Long after Captain Diamond of this city had passed his 100th year, he was connected with an athletic club here, and did gymnastic work, that few of our young men could equal, and one night he attended a public ball when 110 years old and danced most of the night with an athletic young lady of 16.

Frank and Joseph Lewis, of Oakland, brothers, 98 and 95 respectively, tell us the secret of long life is plenty of sleep. They go to bed at 3 p. m. and arise at 10 a. m., making 19 hours a day, and lastly by "not being pestered by a wife."

Mrs. Jane Wood, aged 97, lives at 1139 Fifty-third

street, Oakland ; born in England, but has lived here for the past fifty years.

On January 30, 1913, John Acre, who came from Portugal to California, eighty years ago, died at his home in San Pablo at the age of 100 years.

Judge John Curry died near Dixon, Cal., December 19, 1912, aged 99 years.

Mrs. Gutmede Celis, said to have been the oldest woman in California, died last night (Sept. 10, 1912) at the home of her grandson, Louis Celis, 1419 Ninth street, Richmond, Cal. She was 106 years old.

Mrs. Celis came to California in 1842, before the discovery of gold. She was born December 20, 1806, in Mexico City. With her husband and family she settled in the Santa Clara Valley while California was still Mexican territory.

Twenty years ago Mrs. Celis became a resident of San Pablo, now a part of this city. She left a large number of grandchildren and great grandchildren. There is now (1914) living in Los Angeles, Mrs. Juana de Rubio, 107 years old. She is the mother of 25 children.

Doctor Henry Knox Stratford, formerly one of the leading physicians and surgeons of Chicago, where he practiced sixty years, celebrated today (Aug. 7, 1912, at Los Angeles) his ninety-first birthday. Yesterday Dr. Stratford, in remarks to his guests at dinner, advised that there should be no excesses in eating, drinking or smoking, that physical exercise was one of the best habits of life, and that worry should be an unknown quantity.

Doctor Stratford received honors from the Medical Society of Chicago and the Society of the State of Illinois, and served a term as President of the American

Medical Association. Mrs. M. C. Wilbur, 96 years old, living at University Mound Home, mentally and physically active, voted yearly and takes a keen interest in politics. On July 24th, 1912, there died at Tuxpan, Mexico, a continuation of California climate,, Jose Calvario, 185 years old. Upon official investigation the church records show he was born in 1727.

Saying that she was altogether too capable to think of the city taking care of her, Lizzie Lewis protested vigorously last night (August 10, 1912) when taken into custody by Patrolman T. J. McGuire to be sent to the Almshouse. "I'm only 104 years old," said Lizzie, "and I am perfectly able to take care of myself." "I'll jump out of the window of that poor-house the first chance I get and I'll trot over the hills to my own shanty again." Lizzie has been living in a refugee shack at Bryant and Eighth Streets since the fire and was supported by the charity of her neighbors.

Leverandi Anuzzi died November 18, 1912, at 330 Green Street, San Francisco, lacking three months of reaching the age of 102 years.

Mrs. Iley Lawson Hill, 107 years old, now living at Lakeport, California, was born in Adams County, Ohio, May 5th, 1808, and came to California in 1854—61 years ago—is another instance of prolongation of life by leaving a changeable for a changeless climate. Mrs. Hill's daughter Mary J. Arnold of Lakeport, writes us (1912) "My mother never wore a corset, lived true to nature—led an active life and worked much in the garden—she ate meat in her earlier life but had to quit it on account of her stomach. Her father lived to be 84 and was a Revolutionary soldier. My mother is the oldest living real *Daughter of the Revolution*.

It is not unusual for people in this (Lake) County to live into the 90's. Grandmother Thompson died at the age of 112."

In the year 1911 the Board of Health of San Francisco sent us the report of the following deaths for the year. Herman Isaacs, 95 years old, Sylvanus Norton, 100 years old, lacking three months, and Gunila Olsen, 104 years old.

Mrs. Elizabeth Gardner Foord, celebrated her 101st birthday in Los Angeles August 16, 1911, where she lived the previous 37 years.

Mrs. Keller is living (1912) at 779 Santa Clara Avenue, Alameda, 103 years old, and has been a resident of California for 50 years, and attributes her long life, as do the other California centenarians, to the climate of the Golden State.

Mrs. Dolores Gonzales of Santa Cruz, is 104 years of age (1914). She was born in 1810 and claims the distinction of being the oldest native Californian.

In Los Angeles, on October 12, 1913, Mrs. Mercedes Foster died, aged 105 years, widow of Stephen C. Foster, first mayor of Los Angeles. She was born in that city and last of ten children, all of whom lived beyond ninety years of age. Simeon Thornton, aged 96, Daniel Dozier, 94 and David Hershey Lighty, 91, all live in Alturas.

Gertrude Alto lives (1914) at Old Town, San Diego, aged 124 years. She is of Spanish-Indian blood and she says she never had a sick day in all her life. She walks about the neighborhood and is hale and hearty.

Dr. Henry O. Tanner lives in Los Angeles, 86 years old, equaled Elijah of old (years ago fasted 40 days) lives on nuts and fruits, taking no meat, no stimulants.

There lives (1914) at San Bernardino, Mrs. Felipe

Espargo, 109 years of age. She has a son Antonia Espargo, 76 years old.

Mrs. Catherine Bowen died at 1505 Guerrero Street, San Francisco, on June 7th, 1913, aged 106 years. Thos. Dunbar, 101 years old, who has lived in Mendocino County, California, since 1884, recently walked to Fresno—250 miles—to make his home with his niece, Mrs. Mary Thompson, who lives on a little farm nearby.

Mrs. Mary Cleary, 101 years old, died this morning (December 8th, 1911) in "Old Ladies' Home", after an illness of several months. She was a native of Ireland and came to California when a young woman.

Hyfelite Allain, 104 years old, is an inmate of the Sutter County Infirmary at Yuba City, California. Mrs. Conrad died July 14, 1914, at Boonville, Cal., aged 101 years. Five generations attended her funeral. "I've been smoking cigarettes for nearly ninety years, but I am afraid they are getting me now," said Paticio James, Spanish-American, 104 years old, the patriarch of the San Bernardino Valley, today (April 27th, 1912.) His remark followed a visit of a physician—the first to attend the old man in all his long life, after James had fallen to the pavement and lost consciousness. "I think it was the cigarettes" he continued, "they're making me weak, and I'm afraid I'll have to quit smoking."

Mr. Wm. C. Reed, of Bakersfield, writes me he is 101 years old and in perfect health—eats what he likes, but is temperate in drinking. Henry Trego, a retired rancher, 100 years old, lives at 2063 Bush Street, San Francisco—until five years ago he was a farmer in Santa Clara County. Daniel Turner of Santa Monica, celebrated his 107th birthday July 6, 1913, chopping a quantity of wood to show his vitality. He attributes his long

life to never worrying and by never marrying—and to California climate.

In Ventura County, July 6th, 1912, Ra Escobel celebrated his 110th birthday, and says he is still a young man and does not look over sixty, yet his birth is recorded in the little Catholic church near his home, and confirms his statement.

Major James Armstrong, a Mexican War veteran, and pioneer veteran Guardsman, is living at Petaluma, aged 94. He came to Petaluma in 1854. Lieutenant Colonel Frank Bridgman, of Coronado, is 91 years old and the oldest retired army officer in the United States. Thompson White, of Stockton, is 100 years old and in excellent health. He was born in Glasgow, August 19th, 1912. In 1815 he remembered the soldiers returning from the battle of Waterloo.

Mrs. Ventura Rodriguez is living at Tulare, in Tipton township 110 years old. She has been a resident of Tulare County for many years. At Eugene, Oregon, a continuation of California climate, Grandma Sara Todd, sister-in-law of Abraham Lincoln, celebrated her one hundred and second birthday today (March 29th, 1912.) Nicholas Theobonitas, 116 years old—as corroborated by books and letters found in his lodgings at 1353 Eddy Street—died in this city (San Francisco) October 3, 1912. He was born in Greece, came to California when a young man, and his great age was attested to by his compatriots and it is attributed to the climate of California—as none other of his family lived so long. Mrs. Marcelina Elisalda, 105 years old, of Los Angeles, married Pleasant Leon, 80 years old, on January 17, 1913—a striking example of both longevity and virility.

Mr. E. C. Webster lives at Grass Valley, aged 92 and Mrs. H. Place at Nevada City, also 92. Mrs. Mary

Morton, wife of the British General Henry Blake Morton, died at 1621 7th Avenue, Oakland, September 22, 1911, 101 years of age. Mrs. Jonathan Hunt, 102 years of age (1912) hale and hearty, lives at her beautiful home on Piedmont Hights, Oakland—physically and mentally alert as a woman of fifty.

Mrs. Mary L. Wood died in 1908 in Portland, Oregon, an adjoining state and a continuation of the Pacific Coast climate, at the age of 120, whose great age was authenticated beyond question by the Oregon Historical Society.

Captain Edwin Bailey, at the Soldiers' Home at Sawtelle, wrote us in 1910, then 102 years old, a detail of his life, and summing it all up in this terse sentence said: "I attribute my long life to a strong constitution and temperate habits." He died in January 1911, aged 103. He passed half a century on the ocean, being commander of merchant ships, a friend of Admiral Farragut—serving in the Mexican and Civil wars—in the latter saving many lives at Mobile Bay by throwing a burning shell fired by the enemy, into the water, for which Congress voted him a medal. The last fifty-two years of his life he spent in California and to its climate he owed his great age. Juanita Marshall, 109 years old, lives at 986 Jackson Street, this city, and has lived here since 1850.

Joseph Josephs, of 566 24th Street, Oakland, died January 27, 1912, 94 years old, lacking one month. The oldest Master Mason in California. He was born in Paris, France, and came to this state many years ago—which fact gave to him his remarkable longevity.

Mrs. Francisco Clifford died September 14, 1913, in the Providence Hospital, Oakland. She was born in Monterey in 1803,—lived most of her live in Weaner-

ville—and at her death was 110 years old. Mr. Charles R. Bishop, Vice-President of the Bank of California, and actively at work each day in his office, keeping longer hours than any of his clerks, writes February 10th, 1912, as follows: "In reply to your letter of the 9th instant, I will say that I owe my ninety years of fairly good health, and my ability to work almost constantly, to temperance in habits, vigilance in business, and freedom from superstition and fads. I have lived 24 years in Northern New York, 48 years in Honolulu and 18 years in San Francisco and Berkeley."

Mrs. Mary Ross, 95 years of age, (1912) resides at 997 Scott Street, San Francisco, is as agile of body and keen of mentality as a woman of sixty. She was a native of Wales, but was only five years of age when she came to this country.

At San Luis Obispo, on July 31st, 1911, Mrs. Basilia Higuere died, 96 years of age. She was born at Monterey in 1815 and was the oldest native daughter in California. Charles Konege, 103 years old (1912) lives in San Diego on Ida and 31st Streets, and in excellent health and bids fair to live many years to come. He believes his long life due to California climate and his temperate habits.

Dr. Isadore Sinard, of San Juan Capistrano, is 104 years old and is vigorous of body and mentally active as a man 50 years his junior. Mrs. Lydia Heald Sharpless, of Whittier, is 105 (1915) a Quakeress, active in political and church affairs, and writes us that her long life is due to "plenty of congenial work, being of a happy and contented disposition, and living in the glorious climate of California, with its flowers, and fruits, and health giving sunshine." Her father lived to be 101 years old. Miss Theresa Lammon, of 20 Montgomery

Street, (1912) San Francisco, is 103 years old and in vigorous health.

Mrs. Howard Smith, who lives (1912) near Petaluma, is 108 years of age, caring for her poultry daily, and attributes her great age to the California climate, having been in the state for 52 years. She came here from Dayton, Ohio, in 1860, an invalid with incipient consumption as diagnosed by her family physician. She lives on milk, eggs, fruit and vegetables, using very little meat.

Mr. M. P. Alpha, of Alameda, California, 91 years, writes of his habits as follows: "Plenty of exercise, early rising, drinking water before breakfast, moral life, and I never climb a hill or cross a bridge until I get to it." L. M. Powers, City Health Commissioner, of Los Angeles, for 1911 reports the average death rate 14 per 1,000 and the average length of life 71. This is a phenomenal showing, when we consider that the immigration of invalids into that city is probably fifty per cent greater than any other city in the world.

To show the increase of longevity in the human race during the past three hundred years, we will cite from an European table:

In 1560 the average duration of life.....	18 years
In 1700 the average duration of life.....	23 years
In 1760 the average duration of life.....	32 years
In 1800 the average duration of life.....	33 years
In 1815 the average duration of life.....	38 years
In 1825 the average duration of life.....	38 years
In 1895, in Massachusetts, average duration of life..	44 years
In 1911, in California, average duration of life.....	74 years

Now, when we find that in India the average life is only 23 and in Los Angeles 71, we see that climate is a factor in human life that cannot be over-estimated. In every age we have had a few phenomenally old people,

from 125 to 175, as a reminder of what the human race could do, if we lived in touch with nature.

Longevity is influenced by climatic conditions, favorable in an even semi-tropical climate, and lessened by violent changes. Excessive heat enervates the body—while excessive cold renders it torpid—but a golden mean, such as we have in perfection in California, favors the completion of the full limit of man's life.

We know of no country that can furnish such a number of conditions so essential to man's well-being and happiness, as can the Golden State.

A writer under the soubriquet of "The Chaperon" in the San Francisco Examiner, has given us a brilliant word painting of California life and climate, which we here produce—begging the anonymous writer's pardon.

—“What a pity it was that Fate did not guide that jolly, young-hearted, romantic Ponce de Leon to Santa Barbara instead of leaving him stranded in his merry old age on the other side of the continent. But for the interference of Destiny, the dear old crazy Spanish Knight might still be with us, spinning pretty fairy tales, banishing creaky age with the scintillating laughter his wit evoked.

For surely Santa Barbara is the miracle come true. And not in a Quixotic half-promise, but in prose actuality. For Ponce de Leon is by no means the only one seeking the enchanting will-o'-the-wisp. From all over the world they have been coming to Santa Barbara and no nook in the civilized world is so remote that its fame has not been lauded.

Peace, set like an exquisite jewel amidst scenes of ever-changing beauty, hovers in its very air. It is wafted to you on swinging censurs of blossoming acacia, from the bitter almond, pungency of oleanders, from the trop-

ical breath of the ever-blossoming lemon and orange trees; it reaches your ears in the sibilant undertone of the foraging bees, buzzing an anthem of contentment."

While California encompasses the gamut of climate and longevity, the reader must not think it is deficient in intellectual activity—for in this too, it is unparalleled. We know of no state or country—in the first half century of its existence—that can show as great a number of eminent artists and literary men and women.

Among the painters of distinctive eminence, we might mention Wm. Keith, Tom Hill, Chas. P. Robinson, Theo. Worez and Arthur P. Mathews. The sculptors—Douglas, Tilden, Earl Cummings, Arthur Putnam, Pietro Mazzara and Marion Wells. The actors—John C. McCullough, Ned Buckley, Mary Anderson, Blanche Bates, Florence Roberts, Lotta Crabtree, David Warfield, Maxine Elliott and Adelaide Neilson. Among the writers, Miriam Michelson, Josephine Clifford, Eleanor Gates, Frank Pixley, Frank Norris, Henry George, Prentice Mulford, Sarah Carmichael, Luther Burbank, W. C. Bartlett, J. Ross Browne, Theo. H. Hittell, Starr King, Robt. J. Burdette, E. W. Townsend, John Muir, Gertrude Atherton, H. H. Bancroft, Arbrose Bierce, John Vance Cheney, Ina Coolbrith, Edwin Markham, Geo. Davidson, Geo. Sterling, Geo. Hamlin Fitch, Lucius H. Foote, Jessie Benton Fremont, Henry George, Bret Harte, Mark Twain, Joseph Le Conte, Jack London, Jeremiah Lynch, Joaquin Miller, Chas. Nordhoff, Frank Pixley, Robt. Louis Stevenson, David Starr Jordon, David Belasco, Kate Douglas Wiggin, Sara Murray Thrasher are a few of the many Californians who have attained a permanent place in the world of art and letters.

In every department of human endeavor, success comes to the man who possesses energy, judgment and

qualifications for his life's work—and the greater the longevity, the greater the life work. Money is made in California so easily and spent with an abandon that elicits surprise and admiration from the incoming conservatives of other countries. The enterprise, public spirit and ambition of our citizens have made our city and state rank first among the cities and commonwealths of our age. California is a state of heterogeneous population. We have received tribute from every nation—from every city—and from almost every village. All religions, all political factions, all races, all professions, all trades, arts and handicrafts, are found in San Francisco. It is a world in itself—as fascinating and attractive as it is cosmopolitan and cultured in all that makes for the highest civilization.

We think of San Francisco as Old Dr. Johnson thought of London: "*I have no need to leave London*" said the author of *Rasselas*, "*to travel, as London contains everything in the world worth seeing.*" So Californians think of their beloved city and state. We have everything here that is found and produced in any other city or country, and more—we have a better climate and a longer life, a greater variety of productions, a city in which every wish is gratified of the most fastidious epicure—ever luxury of the idle rich, every opportunity for the most generous scholastic culture.

And San Francisco, the City Beautiful! She has risen again in her glory from her ashes and her ruins, and today stands the peer of all other cities in her modernity and in her picturesque and classic architectural beauty. The fashions of Paris are on our streets—beautiful women and chivalric men crowd our thoroughfares—the coffers of our banks are bursting with their golden treasure; our orchards are bending with the

weight of their fruits; agriculture knows no limitations; our mountains give forth their precious metals; our churches, schools and universities outrank anything in this country or the Old World, for money buys brains as it buys everything else. Our citizens, culled from the sturdiest and brainest of other countries, coming to California with its ideal climate, its abundant and multi-form resources, must of necessity make our Golden State the greatest and most attractive, as a country of long life, of opportunity, of progress and romantic achievement,

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